DOCUMENT RESUME

ED 379 440 CE 068 214

TITLE College of Lake County National Workplace Literacy Program. Final Performance Report.
INSTITUTION Lake County Coll., Grayslake, Ill.
SPONS AGENCY Office of Vocational and Adult Education (ED), Washington, DC. National Workplace Literacy Program.
PUB DATE 94
CONTRACT V198A30120
NOTE 269p.
PUB TYPE Reports - Descriptive (141) -- Reports - Evaluative/Feasibility (142) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC11 Plus Postage.
DESCRIPTORS Adult Basic Education; Adult Literacy; Basic Skills; Behavioral Objectives; *Community Colleges; Cooperative Planning; Curriculum Development; *Demonstration Programs; English (Second Language); Learning Activities; Lesson Plans; *Literacy Education; Mathematics Skills; Models; Needs Assessment; Numeracy; *Partnerships in Education; Pretests Posttests; Program Development; *Program Effectiveness; Questionnaires; Reading Skills; *School Business Relationship; Test Coaching; Two Year Colleges; Writing Skills
IDENTIFIERS General Educational Development Tests; *Workplace Literacy

ABSTRACT

The College of Lake County in Grayslake, Illinois, formed an educational and business partnership with four area businesses to design and implement workplace literacy programs targeted to the needs of each business. The project's four objectives were as follows: develop a model of cooperation between a community college and the business community in meeting the needs of the community's adult learners; assess employees' and companies' needs to permit development of appropriate curricula and instructional strategies; develop a model workplace program; and provide workplace skills training and support services to a significant number of eligible employees and develop a plan for ongoing training. Classes were developed and offered in reading/writing, General Educational Development Test preparation, math, and English as a Second Language. At least 83% of supervisors surveyed noted at least some improvement in the skill levels of employees who participated in the classes. (This document begins with a brief project overview. Of the remainder of the document, approximately 50% consists of reports of the activities conducted/materials developed to meet the project's four objectives. Final reports submitted by each project partners and an outside evaluator's report constitute the remainder of the document. Appended are project-related correspondence and evaluation forms.) (MN)

ED 379 440

College of Lake County
National Workplace Literacy Program
Final Performance Report

COLLEGE OF LAKE COUNTY

19351 West Washington Street
Grayslake, Illinois 60030-1198
(708) 223-6601

NATIONAL WORKPLACE
LITERACY PROGRAM #V198A30120

U.S. DEPARTMENT OF EDUCATION
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CE 068 214

OVERVIEW

The College of Lake County formed an educational and business partnership with four area businesses to design and implement workplace literacy programs targeted to the needs of each business. Direct funding for the 18-month grant project totaled $373,000 provided through the U.S. Department of Education's National Workplace Literacy Program. Funding began on April 1, 1993 and ended November 30, 1994.

GOALS AND OBJECTIVES

In keeping with the mission of the National Workplace Literacy Program, the overall goal of the grant project was to create "a model workplace program consisting of assessment techniques, instructional methods and materials, evaluation measures, and support services that can be applied across industries and yet can be adapted to meet the needs of specific companies" (Proposal 27).

The four objectives identified as necessary for the success of the grant were as follows:

1. To develop a model of cooperation between a community college and the business community in meeting the needs of adult learners in the community.
2. To assess the needs of the employees and the companies so that appropriate curricula and instructional strategies can be developed and shared, where possible, across work sites.
3. To develop a model workplace program consisting of assessment techniques, instructional methods and materials, evaluation measures, and support services that can be applied across industries and yet can be adapted to meet the needs of specific companies.
4. To provide workplace skills training and support services to a significant number of eligible employees by the end of the 18-month period, and to develop a plan to provide for ongoing training in the future.

Except for support services, all of the program components specified in these objectives were directly addressed, which resulted in workplace- specific methods, materials, and assessment techniques that are customized yet also broadly applicable.

INDUSTRIAL PARTNERS

The industrial partners involved in this grant project were Abbott Laboratories, Baxter Healthcare (I.V.) Division), MacLean Fogg Company, and Metalex, Inc. Abbott and Baxter are well- known participants in the healthcare field. The corporate headquarters of Abbott Laboratories, located in Abbott Park, Illinois, is a major supplier of pharmaceuticals. The I.V. Division of Baxter Healthcare, located in Round Lake, Illinois, manufacturers an antibiotic solution packaged in intravenous bags for hospital use.

The workers at Metalex, located in Libertyville, Illinois, manufacture expanded metal for use in building construction and in products such as air filters, ironing boards, and lawn furniture.

MacLean Fogg, located in Mundelein, Illinois, specializes in the manufacture of metal fasteners used in automobile production. Also associated with MacLean Fogg are two other companies: MacLean Molded, a small industry specializing in insulators used on high-power lines, and Reliable Power, a manufacturer of various products used in the construction and repair of high-power lines. MacLean Molded and Reliable Power are located in Cook County, at a considerable distance from the college, but were included in the grant proposal because of their connection to MacLean Fogg. All of the other project sites are within a ten-mile radius of the college.

All of these companies, except for MacLean Molded and Reliable Power, had some previous involvement with the college's workplace literacy program through participation in state grants or the use of contract services.

SERVICES PROVIDED

Each of the industries involved provided an in-house coordinator for project activities, classroom space, the necessary instructional equipment, and worker release time. As the educational provider, the College of Lake County delivered services in three major areas: assessment and advising, curriculum development, and instruction.

Basic skills assessments using standardized instruments were conducted at those sites where workers had not previously been tested. Tests results were used, along with input from in-house coordinators, supervisors, and workers, to determine which classes to run at the various sites. The classes offered fell into four categories: math, reading/writing, English as a second language, and GED preparation.

All of the workers who participated in class met with the career development specialist, a full-time member of the project staff, who helped each student to articulate his/her long-term and short-term goals and determine how they might be achieved.

Throughout the grant project, curriculum development and instruction were closely linked, reflecting the idea that the two areas of activity have a reciprocal rather than a sequential relationship. Rather than invest considerable time up front to develop a formal curriculum whose usefulness would have been questionable, the emphasis was placed on conducting relevant on-site classes in which instruction was guided, not only by the general needs of the industries, but also by the specific needs of the workers who actually took those classes. A needs assessment conducted before the start of each class led to a short, preliminary list of competencies, or objectives, which was then revised as the class continued in order to bring the course objectives increasingly more in line with the needs and capabilities of the students served.

Over the 18 months of funding, the grant project served a total of 750 workers. Overall, 34 courses were offered totaling 1,856 contact hours. As the following section explains, the curriculum development effort itself focused on 6 of these courses taught during the winter of 1994.

CURRICULUM DEVELOPMENT EFFORT

The curriculum development effort, which will be referred to as the "curriculum project," was set up within the overall grant project in order to insure that innovative approaches to workplace instruction were being systematically developed, tested, adapted, and eventually described in a format which made their dissemination possible. A secondary goal was to enhance the expertise of a number of the college's workplace literacy instructors, creating a core group of instructor-consultants capable of providing the grant partners and other area industries with workplace literacy services of the highest quality. The curriculum project was conducted from January through August of 1994 as part of the grant project at a cost of approximately $91,000.

PLANNING

Planning for the curriculum project occurred during the fall of 1993 and included, in addition to the grant staff, the college's Workplace Literacy Training Coordinator, the Director of Adult Education, the Literacy Program Coordinator, the Associate Dean of Adult Education, and the Associate Dean of Adult and Continuing Education. The Adult Learning Resource Center, which eventually served as the consulting agency for the project, also assisted with the planning.

During the planning stage, special permission from the Department of Education was obtained to expand the number of part-time curriculum developers from the 7 originally budgeted to a total of 9, and to involve a consulting agency with extensive expertise in adult education and workplace curriculum development to provide ongoing staff development and technical support. A funding surplus which developed when some of the project staff positions were filled later than anticipated was used to cover these additional expenses.

COURSE SET-UP AND STAFFING

During the late fall, the Project Director worked with each of the in-house coordinators to set up a total of six courses in three subject areas--ESL, reading/writing, and math--which would serve as the focus of the curriculum development activity. In order to include all of the industrial partners, one such course was set up at each of the six project sites. Reading/writing courses were scheduled for Baxter and for Reliable Power; ESL, for MacLean Molded and Abbott; and math, for MacLean Fogg and Metalex. All of these courses were scheduled to start after the December holidays and to run during a period roughly equivalent to the college's spring semester.

In cooperation with the college's Workplace Literacy Training Coordinator and the Director of Adult Education, the Project Director recruited nine of the college's most experienced workplace literacy and adult education instructors, some of whom were already familiar with the participating industries, to serve as curriculum developers. Three ESL, three reading, and three math instructors were recruited in order to form disciplinary teams of three members each. Each team was assigned responsibility for two of the six classes. Two of the members of each team served as the classroom instructors, leaving a third team member free to observe some of the classes taught and to help the two instructors with the development of customized lesson plans, teaching materials, and evaluation techniques.

All of the nine participants worked 20 hours per week for the duration of the curriculum project and were paid a fixed hourly rate established by the college for curriculum development. In addition, the six course instructors received teaching contracts, with compensation determined by the number of contact hours each course called for. This varied from a low of 26 contact hours to a high of 48, with each course meeting from 2 to 4 hours per week for a total of 11 to 13 weeks.

On June 30, 1994, the Project Director, Doug Petcher, resigned. Mary Kay Gee was appointed Acting Project Director, effective July 1, 1994. Grant activity was scheduled to end September 30, 1994 but was extended until November 30, 1994 to enable the Acting Project Director and a business partner to attend the Close-out Conference in Washington, D.C.

CONSULTANTS

The curriculum development teams were supported in their efforts by a group of three consultants from the Adult Learning Resource Center, each with extensive expertise in one of the three areas. The consultants worked jointly to provide a series of workshops on various topics associated with workplace curriculum development, and each consultant served as a mentor for one of the three teams, spending a minimum of one half day per week with the team to review their work and provide technical support. Also, the Coordinator of the Adult Learning Resource Center worked closely with the Project Director to keep the curriculum development on track and resolve problems as they developed. During the final stage of the project, a fourth consultant with editing experience prepared the final document for publication.

CURRICULUM DEVELOPMENT PHASE

The curriculum project actually began during the second week of January and continued through mid August. During this time the activity divided roughly into two phases: a development phase and a publication phase. During the development phase, the nine participants received training in workplace curriculum development from the consultants, prepared for formal site visits by creating a variety of interview forms, conducted the site visits in teams, generated the course objectives, submitted them to the in-house coordinators for review, prepared customized pre- and posttests, and then taught the six courses, during which customized lesson plans and course materials were collaboratively developed. During this period, which lasted from January to May, the participants also reviewed model workplace curricula provided by the consultants and made decisions concerning the overall format for the final product. Some writing began toward the end of this phase with the development of the course outlines as the scope for each subject area.

PUBLICATION PHASE

During the publication phase, which began in mid May and ended in mid August, collaborative teaching gave way to collaborative writing as the work begun in January was consolidated and put into publishable form. One member of each of the participant teams formed an editorial group of three who helped to coordinate the writing of the six other participants and authored several of the sections. During this phase, the consultants reviewed drafts of the work in progress and also did some of the writing, including the section on staff development. The Project Director also reviewed drafts, wrote some of the introductory material, and worked with the editorial group and the consultants to coordinate the writing process. by the end of June, the curriculum was ready for final editing, which occurred over the last six weeks of the publication phase.

EVALUATION

Across the grant, student progress was measured based on accomplishment of company-specific competencies determined from a needs assessment.

Measurement was based on mastery, satisfactory progress, and minimal progress. Each class was measured and the average of all classes is as follows:

Mastery	30%
Satisfactory Progress	46%
Minimal Progress	24%

At the end of each class, students and their supervisors were given evaluation forms to complete. These were designed to measure the student's and the supervisor's perception of the workplace literacy class.

The results of the student surveys are as follows:

Summary	Greatly Improved	Somewhat Improved	No Change
Reading/Writing	53%	45%	2%
GED Preparation	29%	54%	17%
Math	61%	31%	8%
ESL	40%	54%	6%

The supervisors perceptions of their employees in class are as follows:

Summary	Greatly Improved	Somewhat Improved	No Change	Not Observed
Math	22%	45%	25%	8%
Reading/Writing	12%	69%	2%	17%
ESL	21%	59%	18%	2%

OBJECTIVE 1

To develop a model of cooperation between a community college and the business community in meeting the needs of adult learners in the community.

Project activities implemented to accomplish the objective include:

1. To establish an advisory council.

   Each of the four business partners was invited to select 1-2 representatives to sit on this council to ensure active involvement and appropriate implementtation. The council met on a timely basis to share ideas and concerns as well as to discuss major activities and events concerning the grant. (see 1-a)

   This council has been very effective in promoting and allowing for cooperation between competitive corporations and between education and business. A heightened awareness of workplace literacy from both the business and educational perspective has evolved. (see 1-b)

   A College of Lake County internal advisory council was also established to ensure active involvement and appropriate implementation of the grant. The designated personnel with an in-kind time contribution were members who attended monthly meetings to provide input, to offer guidance to the key personnel, and to share in the decision-making process. (see 1-c)

2. To present at a minimum of three informational sessions given by project members to area Chambers of Commerce, Private Industry Councils, and other business and civic groups.

   Multiple presentations were given to the Area Planning Council by the College of Lake County educational and grant staff. The Area Planning Council is a representative group of educators involved in regional literacy programs. The business partners made many formal and informal presentations to other regional and national sites of their respective businesses. Various CLC project members were involved in providing workplace literacy information to Lake County businesses interested in discovering more details about this type of educational opportunity.

3. To conduct at least two seminars and workshops presented by project members to participants from area businesses on issues in workplace skills training.

   (a) A workshop was co-presented by the Project Director and WKPL Training Co. to business partners and area part-time instructors. This August 1993 orientation to workplace literacy provided valuable information about effective educational practices with work documents and materials. (see 1-d)

(b) The CLC internal advisory council presented an informational workshop about the grant and other workplace basic skills opportunities to over twenty area businesses in November of 1993.

(c) A business partner representative was the main speaker for a round table discussion at the February 1994 Partnerships for Literacy Conference in Chicago. The educational program created by this business, of which the College of Lake County is an integral part, was explained and discussed by all seminar participants. (see 1-e)

(d) The project director and two project instructors presented at the annual convention of Illinois TESOL in April 1994. The roundtable discussion centered on the issue of student-centered learning versus company-centered training.

(e) The curriculum development team presented "A Report on Work in Progress" outlining the curriculum being developed under the grant in April 1994. The audience included college administrators, instructors, and business partners.

(f) A business partner, part-time instructor, and workplace literacy coordinator were presenters on May 5, 1994 at the Illinois Community College Economic Development Council in Downers Grove. Various aspects, methods, and effectiveness of the grant workplace program were addressed. (see 1-f)

(g) In August 1994 the grant staff attended an awards ceremony at MacLean-Fogg honoring employee participation in the company's education program. (see 1-g)

(h) The grant staff presented "What's New in Workplace Literacy" in September 1994. The workshop provided information on new teacher training materials and videos as well as new student testing materials. (see 1-h)

(i) Members of the math curriculum development team presented samples of the competencies and lesson plans they developed during the curriculum writing project at a workshop for math instructors at the Adult Learning Resource Center in October 1994.

4. To publish project achievements and results on a quarterly basis to be disseminated to area businesses and the public.

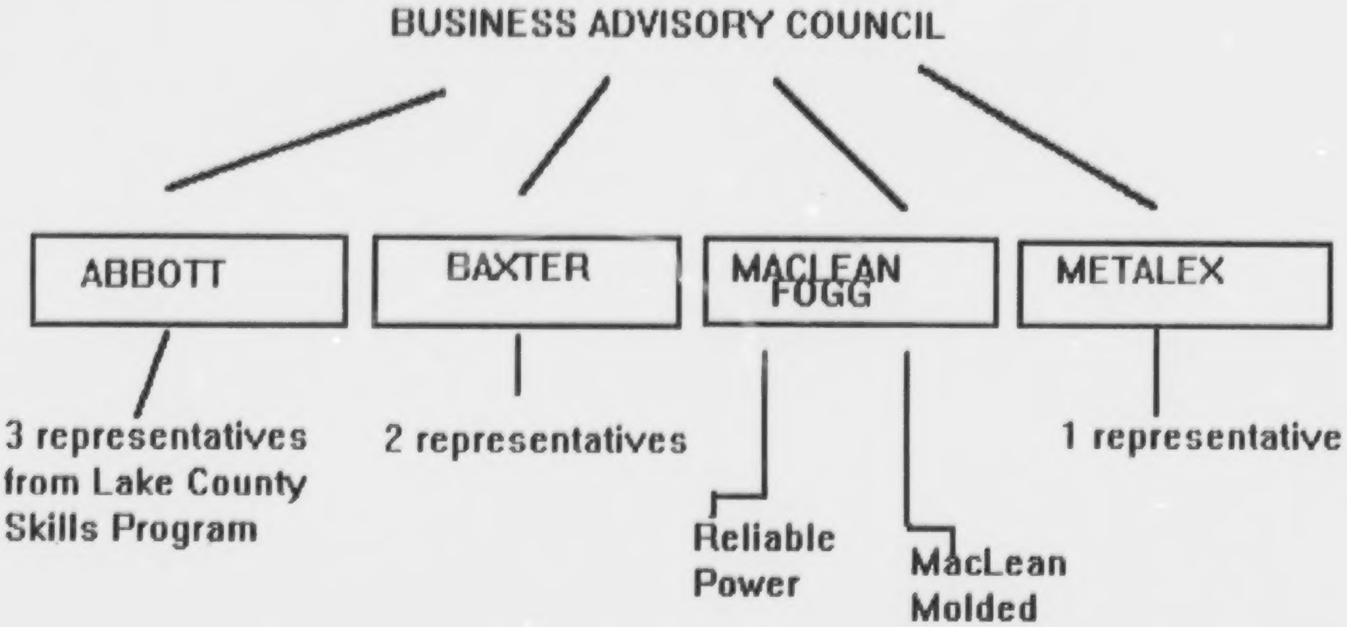
All major activities and achievements have been shared with the business partners who in turn have carried forth this information of their local and regional associations and professional contacts. The CLC internal advisory council has also been actively involved in exposing and promoting the achievements and activities associated with the grant while involved in each of his/her specific position.

The curriculum (see 1-i) and the teacher training packets (see 1-j) will be published at the conclusion of this project.

5. To generate publicity through press releases and announcements on local cable access stations.

The Chicago Tribune and the local Grayslake Times, and News Sun newspapers have been the main sources of media dissemination concerning the grant. (see 1-k)

The acting project director presented information on the National Workplace Literacy Grant to area business people who were touring the College of Lake County as part of the "25 Years of Success" celebration.



BUSINESS ADVISORY COUNCIL

ABBOTT

3 representatives from Lake County Skills Program

BAXTER

2 representatives

MACLEAN FOGG

Reliable Power

MacLean Molded

METALEX

1 representative

THE SKILLS EMPLOYERS WANT AND SKILLS CLC CAN PROVIDE:

1. Knowing How To Learn (for cross training and adaptability)
2. Reading (work documents,company manuals, instructions)
3. Writing (to report job tasks, problems, and suggestions)
4. Mathematics (SPC charting, decimal equivalency,metrics)
5. Oral Communication (improved interaction with supervisors,co-workers)
6. Problem Solving (recognize,process, and resolve problems)
7. Creative Thinking (divergent thinking for teamwork)

COMPANY BENEFITS:

* improves productivity and competency levels

* fosters a safer working environment

* increases retention and promotibility

* promotes employee confidence and self-esteem

* encourages efficiency and initiative

EMPLOYEE BENEFITS:

* improves levels of basic skills

* increases ability to participate in department meetings

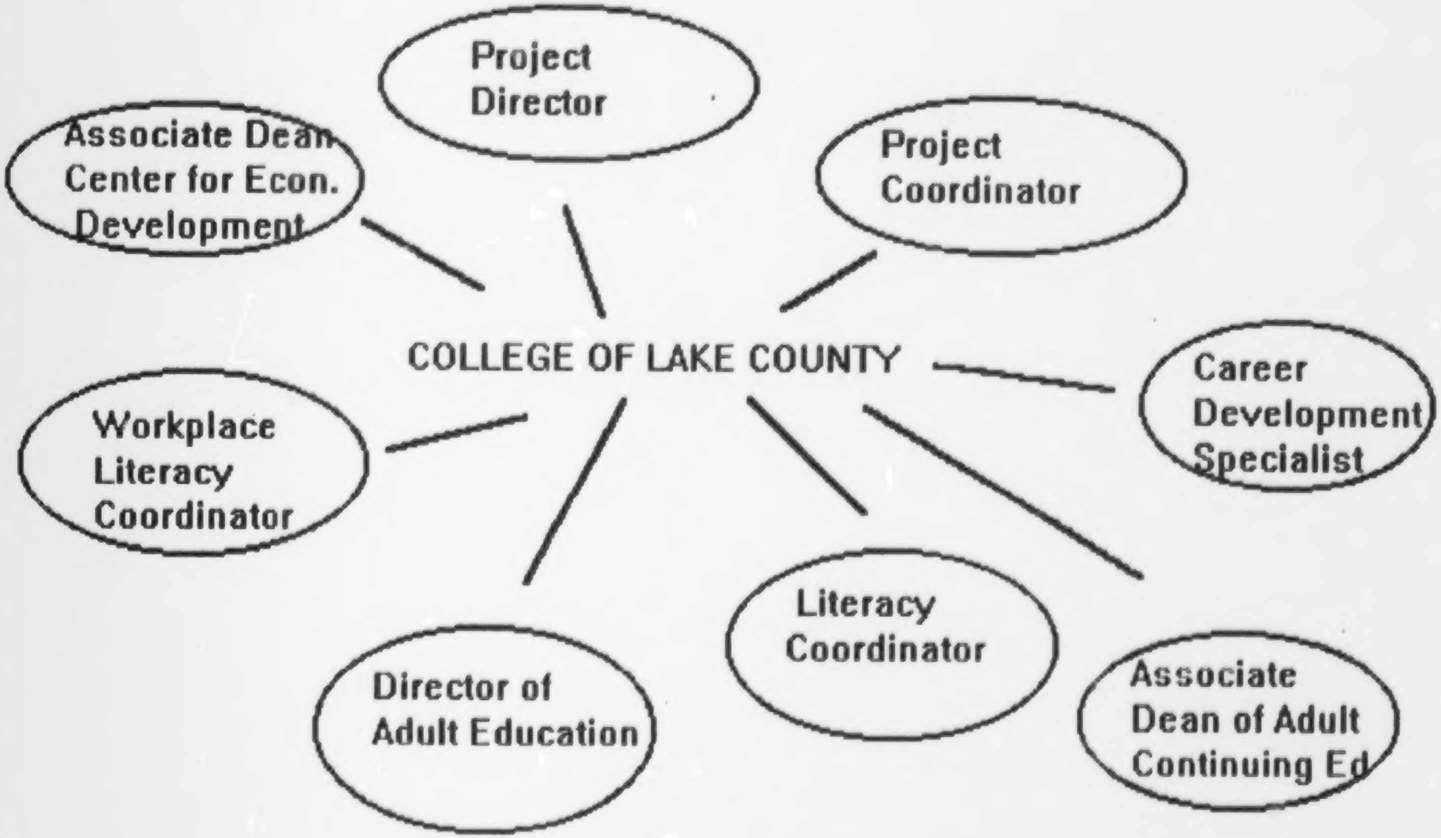
* encourages teamwork

* enhances ability in decision making and problem solving

* promotes value of education

CLOSE THE GAP BETWEEN EMPLOYEE SKILLS AND WORKPLACE NEEDS

COLLEGE OF LAKE COUNTY INTERNAL ADVISORY COUNCIL



COLLEGE OF LAKE COUNTY

Project Director

Project Coordinator

Career Development Specialist

Associate Dean of Adult Continuing Ed

Literacy Coordinator

Director of Adult Education

Workplace Literacy Coordinator

Associate Dean Center for Econ. Development

COLLEGE OF LAKE COUNTY
WORKPLACE LITERACY PROGRAM

PRESENTS

WORKPLACE LITERACY ORIENTATION

COLLEGE OF LAKE COUNTY
GRAYSLAKE, IL

ROOM C130, MAIN BUILDING
WEDNESDAY, AUGUST 18, 1993
9:00 a.m. - 3:00 p.m.

AGENDA

I. 9:00 a.m. - 11:30 a.m.
- Presentation from Lake County business representative
- Explanation of National Workplace Literacy Grant and CED Workplace programs
- Workplace Video excerpt
- Overview of Workplace subject areas
- Classroom Activities for workplace documents

II. 12:30 p.m. - 2:00 p.m.
- Presentation of workplace Assessment Techniques and Materials by CLC instructors
- GED and ESL mini-workshop conducted by CLC workplace instructors

III. 2:00 p.m. - 3:00 p.m.
- Orientation for fall workplace instructors

Participants will:

1) Understand how Workplace Literacy training differs from adult education classroom training
2) Gain exposure to various workplace subject areas
3) Increase knowledge of GED, ESL and assessment in Workplace programs

R.S.V.P. by Friday, August 13 to: Alyce Beemsterboer or Jean Chambers
Center for Economic Development Workplace Literacy (708) 223-6601 ext.2310 or 2763

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PARTNERSHIPS FOR LITERACY X Tentative CONFERENCE Schedule

Thursday, February 4, 1993

7:30 am - 8:30 am - Breakfast (meeting rooms available)

8:00 am - 4:00 pm - Registration & Exhibits Open

8:00 am- 11:00 am - Math for ABE (3 hr workshop, limited to 30)
Gabrielle Stone

8:45 am - 9:15 am - Welcome & Opening Session

9:30 am - 11:00 am - Concurrent Sessions

- Family Literacy: Learning is Fun (limit: 30)
  Louise Free
- How Basic Skills Fit into a Company's Longterm Mission
  Bernadette Fallow & others
- Using Computers to Enhance Learning (repeat)
  Fay Bowren
- Proposal Writing (limit: 30)
  Doug VanNostran
- Illinois Reading Council Partnerships (limit: 30)
  Norm Stahl, Shelia Diaz & others
- Volunteer Management Basics (repeat)
  Patricia Chapel

11:15 am - 12:15 pm - Concurrent Sessions

- Relating Literacy Research to Practice
  Elaine Furniss (Australia)
- Labor/Management: Joint Support of Basic Skills Programs
  John Wagner, Dave Banks, Wayne Hutchings, plus
- Multicultural Diversity in the Community & Workplace
  Aliza Becker & others
- Welcoming the Writer Within
  Paula Phipps & Students
- Family Literacy: Head Start Model
  Judith Brown & others
- Evaluating Program Progress (repeat)
  Linda Kersten
- Making Math Easy (repeat)
  Mathew & Winters
- Community Commitment to Lifelong Learning (repeat)
  Rodriguez & others

Thursday, February 4 continued....

12:30 pm - Luncheon

1:45 pm - 3:15 pm - Concurrent Sessions

- Thematic Approaches Which Encourage Reading
  Linda Thistlethwaite
- Dynamic Student Assessment (limit: 30)
  Dee Boydstun
- Family Literacy Practicum
  Carol Fox & Laura Bercovitz
- Evaluating Basic Skills Programs
  Tom Sticht (California)
- Project P.U.L.L. (repeat)
  Bev Fisher

4:00 pm - EXHIBITS CLOSE

4:00 pm - 5:00 pm - Concurrent Sessions

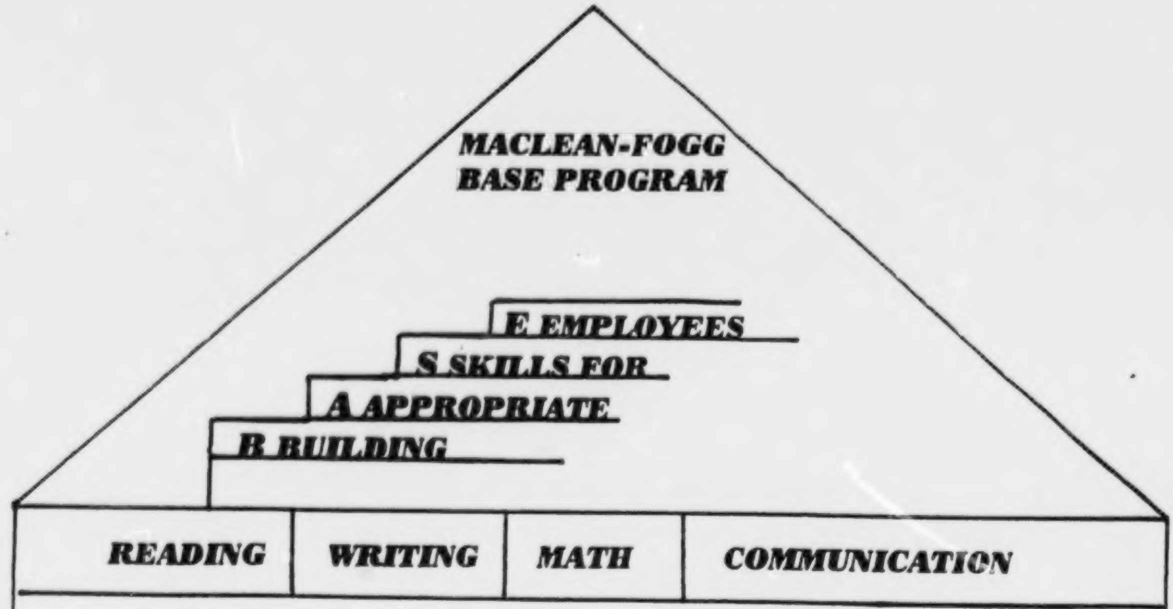
- Tutor Training Practicum
  Valerie Meyer
- Workplace Literacy Business Panel
  William Dudek & others
- Breakthrough I-TV & You
  Bonnie Smith & Chris Francisco
- Native Language Literacy
  Aliza Becker & others
- Stress Management (limit: 30)
  Patricia Shedlock
- Welcoming the Writer Within (repeat)
- Relating Research to Practice (repeat)
- Program Documentation Strategies (repeat)
  Domina & Todd

Friday, February 5, 1993

8:00 am - 9:15 am - Breakfast

9:30 am - 10:30 am - General Session
Looking at Yesterday With a Vision for Tomorrow
Tom Sticht, Applied Behavioral and Cognitive Sciences, Inc.

11:00 am - 12 noon - Closing Session



MACLEAN-FOGG
BASE PROGRAM

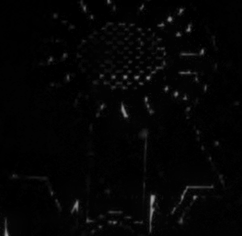
E EMPLOYEES
S SKILLS FOR
A APPROPRIATE
B BUILDING

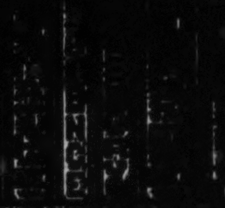
READING	WRITING	MATH	COMMUNICATION

- *INTEGRAL PART OF TOTAL COMPANY TRAINING AND DEVELOPMENT
- *SUPPORTED BY MANAGEMENT
- *FOUNDATION FOR OTHER MORE SPECIFIC JOB TRAINING
- *INCLUDED IN EACH DIVISION'S BUDGET AS A LINE ITEM AS A PART OF THE 3 TO 5 YEAR BUSINESS PLAN
- *RECOGNIZED AS A REGULAR TRAINING PROGRAM WITH NAME AND LOGO
- *POSITIVE FEEDBACK FROM SUPERVISORS AND PARTICIPANTS
- *EXCELLENT PARTNERSHIPS DEVELOPED WITH COMMUNITY COLLEGES
- *HIGH QUALITY OF TEACHING PERSONNEL HAS BEEN A BIG PART OF THE SUCCESSFUL DEVELOPMENT OF THE PROGRAM
- *PROFESSIONAL CONSULTATION AND NETWORKING ARE IMPORTANT COMPONENTS PROVIDED BY THE GRANT

AGENDA	ICCEDA SPRING CONFERENCE	IN SEARCH OF BEST PRACTICES	RADISSON SUITES HOTEL	DOWNERS GROVE	
DAY AND TIME	SESSION	ACTIVITY TITLE	PRESENTER MODERATOR	COMMUNITY COLLEGE	ROOM
THURSDAY 11:30-6:00	Vendor Visits	American College Testing			
11:30-6:00	Vendor Visits	Zenger-Miller			
11:30-6:00	Vendor Visits	Computerprep			
11:30-6:00	Vendor Visits	ETEC Systems			
11:30-6:00	Vendor Visits	Corporate Dynamics, Inc.			
11:30-6:00	Vendor Visits	Moneywise			
THURSDAY 11:30-6:00	Vendor Visits	P. Q. Systems			
11:30-6:00	Vendor Visits	The Carroll-Keller Group, Ltd.			
THURSDAY 1:10pm-2:00	Roundtable 3: Computer Innovations	SNAP Sales Software	Sheila Quirk	William Rainey Harper College	
THURSDAY 1:10pm-2:00	Roundtable 3: Computer Innovations	Instructional Materials	Computer Prep	Vendor	
1:10pm-2:00	Roundtable 3: Computer Innovations	Computer Solutions:PT instructors for hire	Rob Wescott	Lake Land College	
1:10pm-2:00	Roundtable 3: Computer Innovations	ACT Sales Software	Vendor - ETEC	Vendor	
1:10pm-2:00	Roundtable 3: Computer Innovations	Computers to Go	Chuck Jenrich	Prarie State College	
THURSDAY 2:10-3:00	Session 2 Presentations (A)	Industrial Suppliers Network	Bill Milligan Mark Porter	Rock Valley College	
2:10-3:00	Session 2 Presentatons (B)	Workplace Literacy Partnerships	Mary Kay Gee/Bernie Fallaw	College of Lake County	

I-f





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COLLEGE OF LAKE COUNTY
NATIONAL WORKPLACE LITERACY GRANT
PRESENTS

WHAT'S NEW IN WORKPLACE LITERACY

Room A216
September 8, 1994
9:00 am - 12:00 pm

8:45 - 9:00 - Juice and Bagels

9:00 - 9:15

- * Introduction
- * Staff Responsibilities
    - Mary Kay Gee
    - John Bird
    - Anne Hauca

9:15 - 10:00

- * Community versus Workplace Literacy delivery
    - Adult Education Instructor
    - Workplace Literacy Instructor

10:00 - 10:45

- * Excerpt from teacher training packet
- * Read
- * Brainstorm
- * Share information

10:45 - 11:00

- * Break

11:00 - 11:30

- * Advisement
- * New TABE tests

11:30 - 12:00

- * Excerpt from "Assessment and Recruitment"
    - Video
    - Written activity
- * Wrap-up

Purpose:

1. Update current College of Lake County instructors on the National Workplace Literacy Grant.

2. Provide information to current and prospective instructors on teacher training information available through the College of Lake County.

3. Provide information to current and prospective instructors on new TABE materials developed for the workplace.

RSVP to Jean Chambers **ASAP** 223-6601 ext. 2763.

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  Workplace Competency Checklist 154

COLLEGE OF LAKE COUNTY
National Workplace Literacy Program
Center for Economic Development
19351 W. Washington
Grayslake, IL 60030

Teacher Training Program Modules

1. THE CONTENT OF WORKPLACE LITERACY

A. The Workplace
- What is it (and what it is not--comparison with other types of literacy)
- Company culture--how to identigy characteristics and work within them, troubleshoot issues and problems
- Working within a union environment
- Initiatives such as ISO 9000, SPC, TQM, and their relationship/impact on WKPL programming

2. THE CONTENT OF WORKPLACE LITERACY

B. The Learner
- The adult learner
- Gender-related work and learning issues
- Cultural differences
- The educationally disvantaged
- The disabled

3. RELATING WKPL PROGRAMMING TO NEEDS OF BUSINESS AND INDUSTRY

- SCANS competencies
- National / regional / local surveys
- Company-specific needs
    - +Job analysis to identify a list of neded competencies--DACUM
    - +Task analysis to identify a list of basic skills related to needed competencies--DELTA

4. DEVELOPING A TRAINING PLAN AND PERFORMANCE OBJECTIVES FROM THE JOB AND LITERACY TASK ANALYSES

- Characteristics of a competency-based / functional context system
- Holistic curriculum approach compared to linear curriculum approach
- Student-centered instruction (as compared to traditional instruction)

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- Development of Performance Objectives
- Critical teaching and learning principles
- Metacognitive structures

5. USING RESOURCES IN AND FROM THE WORKPLACE

- Finding resources
- Assessing reading level and other types of requirements for use
- Turning resources into curriculum--how to create activities

6. ROLE OF INSTRUCTOR IN WORKPLACE LITERACY

- Responsibilities, limits, accountability
- Necessary characteristics--flexible and adaptive, facilitative, high tolerance, and expectation of ambiguity
- Setting up a suitable learning environment
- Communication systems, problem solving, paper work
- Confidentiality issues

7. STRATEGIES FOR INDIVIDUALIZING INSTRUCTION

- Multi-level instruction for reading, math, and ESL
- IEP's
- Learning styles
- Learner-generated curriculum
- Cognitive development

8. STRATEGIES FOR COMMUNICATIONS INSTRUCTION

- Reading, writing, speaking, listening (for the native English speaker)
- Megacognitive framework
- Tie to problem-solving and decision-making skills

9. STRATEGIES FOR MATHEMATICS INSTRUCTION

- Calculating, computing, and estimating
- Technology assists (calculator, computer)
- Metacognitive framework
- Tie to problem-solving skills

10. STRATEGIES FOR READING INSTRUCTION

- Skimming, scanning, main idea
- Reading policy manuals, insurance forms
- Types of sources and how to use them (e.g., newspapers, magazines)
- Comprehension and thinking skills

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11. STRATEGIES FOR ESL INSTRUCTION

- Oral communication
    - + Pronunciation
    - + Responses and input in the workplace
- Overview of current teaching methodologies and approaches
- Description and examples of types of language teaching
- Integrating the four skills into a holistic curriculum

12. MANAGING INSTRUCTION

- Options--large group, small group, pairs, and individual
- Moving toward small group / team work instruction
- Presentation of information using all learning styles
- using students to teach students
- facilitation of problem-solving , problem-based, decision-making skills

13. EFFECTIVE TEACHING

- Developing lesson plans
    - +simple format that instructors can use, including samples
- Techniques for assessing effective teaching
    - + self-evualation
    - + supervisory evualation
    - + formative and summative check and balance and reporting

14. TUTORING / MENTORING IN THE WORKPLACE

- Using people to help people--garnering people resources
- Tips--what people need to know to be helped and to help others

15. PERFORMANCE- BASED ASSESSMENT

- Ties to job performance measures
- Performance checklists
- Alternative forms of assessment (including portfolio)
- Continuous assessment--spectrum from in-class check for learning engagement to certifying competencies
- Assessment tools (e.g., cloze technique/ standarized testing / journals

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DRAFT

FOR IMMEDIATE RELEASE April 1, 1993
Contact: Evelyn R. Schiele

CLC BEGINS MODEL WORKPLACE LITERACY PARTNERSHIP

The College of Lake County in partnership with four area companies today began a nearly $1 million workplace literacy program that is expected to be a model for such training in Lake County. The 18-month program will consist of on-site skills assessment testing and training conducted by CLC at Abbott Laboratories (North Chicago), Baxter Healthcare (Deerfield), MacLean-Fogg (Mundelein) and Metalex, a division of the Milwaukee-based Koller Group located in Libertyville.

"The four participating companies are leaders in developing workplace literacy programs in Lake County," said CLC President Daniel J. LaVista. "We see our partnership as a model for how the college and area businesses can work together to develop a highly skilled workforce that can compete with workers anywhere in the world."

"The program is a tremendous win-win opportunity," LaVista continued. "The participating companies will receive customized training. Employees will be empowered with new skills. The college will learn valuable information about industry and community needs that can be applied to developing future curriculum. All of that will benefit the community as a whole."

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Funding for the program will come from a grant from the U.S. Department of Education in the amount of $373,192 and support in the form of work release time and in-kind services from the four participating companies and the college in the amount of $579,730.

The program will serve more than 1,400 employees--about 700 at Abbott, 390 at Baxter, 345 at MacLean-Fogg and 45 at Metalex. Services will include skills assessment testing, preparation of an education plan for each employee and development of customized courses to meet the training needs of each company. The training will include both classroom instruction and individual tutoring.

Nationally, and locally, workplace skills are increasingly an issue. "Production line work requires higher levels of skills than in the past," said Mary Charuhas, associate dean of CLC's adult and continuing education division. "Today's production line workers need strong analytical thinking and interpersonal skills as well as a mastery of basic reading, writing and math. They can't participate in initiatives like total quality management if they can't communicate well or don't understand how taking measurements relates to collecting statistics."

The participating companies agree. "Production line workers today are team problem solvers," said William Pepito, manager of Abbott Laboratories' Lake County Skills Development Program. "Like everyone engaged in problem solving, they sometimes need

-more-

some extra training. In the past, companies have invested more heavily in managerial training. Today, we recognize that production line workers are an equally valuable resource."

"To be competitive, a company needs strong quality control," said Bernadette Fallaw, MacLean-Fogg's education coordinator. "A lot of that quality control is in the hands of production line workers because of the increased use of technology in today's production processes."

In addition to skills mastery, the workplace training will also build employee confidence, an equally important result, the companies believe. "Employees feel better about themselves when they develop their skills," said Nancy Ortega, human resources manager at Baxter. "Many of the employees involved in workplace training go on to get further education and advance in the company. They discover their potential, and we develop a loyal, committed workforce."

"We want employees to feel good about themselves," agreed Kathleen Nargis, director of human resources at Metalex. "If they do, they'll take even more pride in their work. That benefits us and our customers."

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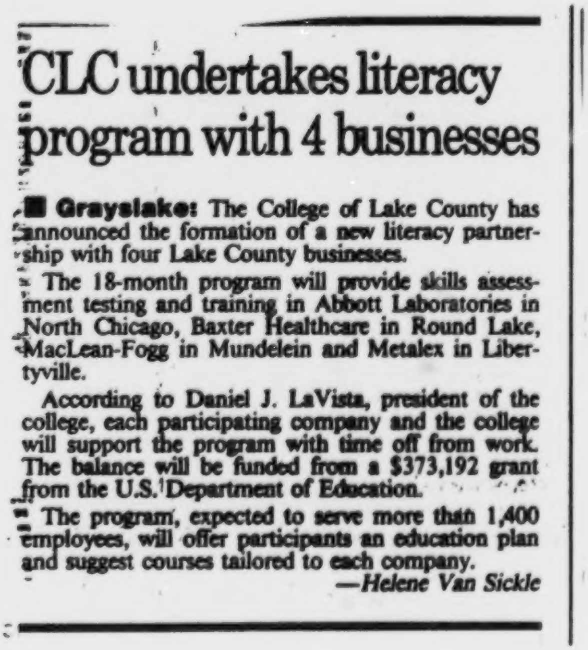

CLC undertakes literacy program with 4 businesses

Grayslake: The College of Lake County has announced the formation of a new literacy partnership with four Lake County businesses.

The 18-month program will provide skills assessment testing and training in Abbott Laboratories in North Chicago, Baxter Healthcare in Round Lake, MacLean-Fogg in Mundelein and Metalex in Libertyville.

According to Daniel J. LaVista, president of the college, each participating company and the college will support the program with time off from work. The balance will be funded from a $373,192 grant from the U.S. Department of Education.

The program, expected to serve more than 1,400 employees, will offer participants an education plan and suggest courses tailored to each company.

—Helene Van Sickle

OBJECTIVE 2

To assess the needs of the employees and the companies so that appropriate curricula and instructional strategies can be developed and can be shared, where possible, across work sites.

Project activities implemented to accomplish the objective include:

1. Literacy audits that allow for observation of employees to determine the basic skills they need to perform their jobs effectively.

   This activity has been one of major emphasis prior to initiation of all workplace classes. The observation process was explained to the instructors and adult educators in a two-day workshop in August and September by outside consultants. The curriculum team members received further instruction of this process as they prepared to develop the main curriculum for the grant. Subsequently, the curriculum team members have assisted all new and other experienced workplace instructors in the observation process of determining basic skills needed for job effectiveness.

   The business partners also attended the workshops so they have become more cognizant in relating basic skills to job competencies and where there may be gaps and/or concerns.

2. Task analyses of key jobs to determine job skills and competencies.

   This analysis is performed by all workplace instructors in varying degrees. This can be done by a checklist process, direct observation of key jobs over a period of time, studying workplace specific documents and materials, reviewing resource books that address workplace skills and key jobs, reading job descriptions, and/or comparing key jobs of the four business partners.

   The SCANS report as well as a labor market analysis task skills developed by the Private Industry Council for Lake County, Illinois (see 2-a) in the spring of 1993 also served to assist in this task analysis process.

3. Interviewing of employees and supervisors to determine their perception of the basic skills needed to perform their jobs effectively and to ensure that basic skills are the key issue rather than personnel issues.

   The interviewing of the employees and supervisors took place individually as well as in groups. Sometimes this exercise was initially in the form of a questionnaire with informational sessions as a follow up to further explore and determine the necessary basic skills for improved job effectiveness. Basic skills enhancement through workplace-specific educational opportunities was always the focus and was so maintained through all course instruction; personnel issues were not addressed. The interviewing was conducted by workplace instructors and continual input from both employee and supervisor was constantly encouraged. (see 2-b)

4. Assessment to determine the skill levels of employees.

At several of the participating companies, general assessments of employees' basic skills occurred independently before the grant project got underway or shortly thereafter:

-At Reliable Power, all production workers were independently assessed using the ABLE test by the full time Educational Training Facilitator who was hired in June of 1993.

-At MacLean Fogg, all production workers were independently assessed using the BEST test by the Continuing Education Coordinator.

-At Metalex, 79 workers were assessed using the TABE and an in-house math test through an Illinois Secretary of State Grant which ended in June of 1993.

-At Abbott, 176 workers were assessed using the TABE through an Illinois Secretary of State Grant which ended in June of 1993. During the fall of 1993 an additional 300 employees were assessed using the TABE through an internally funded program focused on setting employment standards and developing a pre-employment curriculum provided by CLC.

-At Baxter, those individuals participating in workplace-specific mathematics classes prior to the grant. All were assessed by the TABE test. The ESLOA and CELSA test for non-native English speakers was administered whenever necessary for general assessment.

5. Collection of pertinent materials written and read in the job to determine the skills necessary for the effective use of these materials and for developing workplace-based curricula.

This collection was done in collaboration with instructors, human resource personnel, supervisors, and employees prior to and during the instructional period. Materials ranged from safety procedures; machine operating instructions; work orders; company bulletins; attendance, waste, productivity, and safety reports; medical insurance forms; recipes; company manuals; to job descriptions. (see 2-c)

Once these materials were collected there were numerous resources (texts, articles, adult educators, curriculum team members) available describing how to appropriately utilize and integrate the workplace materials into lesson plans and curriculum.

6. Development of workplace-based pre- and post-tests.

Instructors developed a pre- and post-test specific to each particular subject area. They were in the form of interviews, (ESL), practice tests (GED), math application and computation (metric systems and SPC charting), and reading and cloze tests (documents). In some instances role-playing and simulation of actual job tasks constituted the testing. (see 2-d)

7. Instructional strategies that can be shared across work sites.

Instructional strategies appropriate for adult learners and workplace literacy were extracted from various sources and adapted to pharmaceutical and manufacturing businesses. A description of the most common follows. (see 2-e)

N·C·I
RESEARCH

EMERGING EMPLOYMENT OPPORTUNITIES AND IMPLICATIONS FOR TRAINING

LAKE COUNTY, ILLINOIS

Prepared for

The Private Industry Council of Lake County and
Illinois Department of Commerce and Community Affairs

The Institute for
Urban Economic Development

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INTRODUCTION

Over the past twenty years, structural changes in the U.S. economy have transformed local labor markets and the nature of employment opportunities, posing special difficulties for those with limited education and skills. Institutions responsible for education and training are searching for ways to respond to these changes, but often are hampered by a lack of information useful for tailoring programs.

To help meet this need, NCI Research (NCI) has developed a method for local labor market analysis that can be used to evaluate employment opportunities, targeting the most promising alternatives for those with limited educational backgrounds or skills. In late 1992, NCI contracted with the Illinois Department of Commerce and Community Affairs (DCCA) to assist four of the State's Service Delivery Areas (SDAs) in implementing their Job Training Partnership Act (JTPA) program. The four participating SDAs include SDA 1 (Lake County), SDA 2 (McHenry County), SDA 14 (Western Illinois), and SDA 26 (Southern Illinois).

This report describes the use of NCI's methodology to analyze occupational opportunities in Lake County, Illinois (SDA 1). The project had three main objectives:

1) to identify industry-occupational clusters that offer economic opportunity for the JTPA target population (i.e., there is a reasonable expectation that jobs will be available that pay a living wage);

2) to analyze the work-based skill and competency requirements of those occupations; and

3) to make recommendations relative to preparing individuals for employment in those occupations through the JTPA program.

The first section that follows presents the results of NCI's analysis of the Lake County labor market, culminating in identification of the most promising occupations for the area's JTPA-eligible population. It includes a special analysis assessing industry strengths in the county and in the surrounding region, which provided guidance in convening focus groups of local industry representatives. The following section of the report summarizes the findings from the focus group sessions, which addressed changing job requirements and training needs for the top-ranked occupations. The discussion of each occupation concludes with implications for designing more effective JTPA programs.

EVALUATING EMPLOYMENT OPPORTUNITIES

The analysis of the Lake County labor market focused on projected employment opportunities in the near- to mid-term (through the year 2000). There were two main components:

- Development of labor market demand projections for major industry-occupational groupings, with identification of corresponding education and skill levels for entry-level positions

- Development of an Employment Opportunity Index (EOI) rating for each occupational cluster, based on projected hiring demand, growth prospects, labor market tightness, wage and benefit levels, ease of occupational entry, and industry strengths in the SDA region.

The progression and results of these analyses are summarized below. The resulting EOI ratings indicate the most promising occupational alternatives for individuals hoping to combine job security and upward mobility with relative ease of entry (i.e., entry requirements may include some post-secondary preparation, but less than a bachelor's degree).

The top-ranking options resulting from the analysis were selected for more in-depth examination by focus groups of industry representatives and employment-training officials, convened to examine changes in occupational structure and entry-level requirements. The findings from the focus groups are discussed in detail in the next section of the report.

Labor Demand Analysis

The analysis of the Lake County labor market began with occupational demand projections for the SDA provided by the Illinois Occupational Information Coordinating Committee (IOICC). The occupational projections are derived from industry employment projections developed by the Illinois Department of Employment Security (IDES), which are converted into figures for occupational demand using IDES' industry-occupational matrices.

The industry-occupational matrices cover some 800 occupations identified in the Occupational Employment Statistics (OES) series of the U.S. Bureau of Labor Statistics. Analyzing every occupation would have yielded over 10,000 observations for the 13 industry sectors that were considered in this analysis (which are identified below in the discussion of Employment Opportunity Index components). To facilitate analysis, NCI developed broad industry-occupational groupings or "clusters." The following criteria guided designation of the clusters:

- The magnitude of occupational employment within an industry. Most "trade" workers, for instance, are employed in the construction industry. Very few work in the banking industry. Small categories such as "trades in banking" were eliminated.
- The dispersion of employment in an occupation across industries. Some occupations, such as the trades, are highly concentrated in one industry. Others, such as clerical work and bookkeeping, are highly dispersed across industries. Thus, while the size of an occupation in any given industry may be relatively small, overall occupational employment across all industries can be very large. In such cases, the threshold size for including an industry-occupational grouping was adjusted to reflect the highly dispersed nature of the occupation.
- "Family relationships" among occupational groups in terms of tasks performed, skills required, and industry concentrations, which provided a basis for consolidating categories.

The clustering analysis produced 27 major occupational clusters, representing 80 percent or more of total employment in the subject SDAs. The cluster profile varied for each SDA, with 21 clusters represented in Lake County (see Table 1). The clusters fall into the following six major groups:

1) Executive/Professional Occupations
2) Professional Service Occupations
3) Technical Occupations
4) Skilled Physical Services
5) Administrative Support and Sales Occupations
6) Miscellaneous Services & Manual Work Occupations

Several of the clusters are broken into subclusters. For instance, the huge "Sales and Marketing" cluster is divided into two occupational sub-categories: "Sales Workers-Clerks-Cashiers" and "Other Sales and Marketing." Within each cluster, occupational employment is broken out by major industries.

Occupational Demand Projections. The first three data columns of Table 1 report occupational employment in SDA 1 in 1988 and projected occupational employment in 2000, with the percentage change over the period. The next three columns report the annual average number of new jobs to be created by growth and the annual average number of separations (i.e., openings due to replacement hiring), which sum to the average annual number of openings for each industry-occupational category projected for the period.

The most significant clusters in terms of the projected number of annual job openings in Lake County are the following:

Cluster 1 Management & Mgmt-Related	1,387
Cluster 9 Precision Prod. & Machine Op.	607
Cluster 16 Other Clerical & Administrative	1,171
Cluster 17 Sales/Marketing	2,702
Cluster 18 Food & Beverage Prep. & Serv.	1,224

Other clusters or components of clusters are worth noting because they are projected to grow very rapidly. There are eleven industry-occupational categories that are projected to experience 30 percent or greater growth during the period. Especially noteworthy are the projected 54.3 percent growth in the "Other Services" category of Cluster 1 (a reflection of anticipated growth in the "Amusement and Recreation Services" component of this sector, not broken out in the table) and the 60.8 percent growth expected in the "Business and Legal Services" component of Cluster 16. The government component of several clusters is projected to decline precipitously due to military cutbacks and facility closings.

Overall employment in manufacturing is projected to grow at a rate a little slower than total employment growth in Lake County. However, two occupations in the local manufacturing sector are among those projected to experience rapid growth of 30 percent or more over the 1988-2000 period: professional specialties (including engineers, architects, and surveyors plus natural, computer and math scientists) and technician occupations. The data indicate that opportunities in manufacturing will be increasingly concentrated at the higher end of the skill ladder. However, three mid-level occupations that will be roughly keeping pace with overall employment growth are precision production, installation and repair mechanics, and material recording, scheduling and dispatching.

Several overall patterns emerge from the data that echo other studies on the Illinois economy as well as trends in the national economy. There is clearly a growing demand for technician and information processing occupations. These are the key positions of the information age--the occupations that are situated midway between traditional semi-skilled production and service workers and the managerial and professional occupations. Examples are the burgeoning ranks of health care technicians and administrative personnel working with computers, such as customer service representatives. Even the manufacturing sector is beginning to move away from the semi-skilled manual laborer toward more highly skilled, precision oriented, self-managed personnel. Sales and marketing occupations will be increasingly in demand.

Analysis of Skill Requirements

Table 1 also reports measures of the education and skill levels associated with each occupational cluster, under the column headings "GED" and "SVP." These refer to levels of General Educational Development (GED) and Specific Vocational Preparation (SVP) as defined by the U.S. Department of Labor (DOL)[1].

GED and SVP scores have been developed for some 13,000 occupations listed in the Department of Labor's *Directory of Occupational Titles* (DOT).

Table 1
Employment Projections, Annual Job Openings, and Skill Levels for Selected Occupational Clusters, 1988-2000
SDA 1: Lake County

	Employment		Percent Change	Average Annual Number of:				
	1988	2000	1988-2000	New Jobs	Separations	Total Openings	GED	SVP
I. Executive/Professional Occupations								
Cluster 1: *Management & Management-Related*								
Manufacturing	6,615	7,967	20.4	113	259	372	5	8
Retail Trade	6,586	7,933	20.5	112	271	383	4	7
Finance, Insurance, Real Estate (FIRE)	2,032	2,575	26.7	45	75	120	5	7
Other Services	2,736	4,222	54.3	124	124	248	5	8
Government	4,732	3,385	-28.5	-112	154	42	5	6
Total Cluster 1	25,994	30,362	16.8	364	1,023	1,387	5	7
Cluster 2: *Professional Specialties*								
Manufacturing	4,295	5,989	39.4	141	124	265	5	8
Total Cluster 2	7,842	9,534	21.6	141	207	348	5	8
Cluster 2.3: *Engineers, Architects, Surveyors plus Natural, Computer, & Math Scientists*								
Manufacturing	4,295	5,989	39.4	141	124	265	5	8
Total Cluster 2.3	6,668	7,986	19.8	110	175	285	5	8
II. Professional Service Occupations								
Cluster 4: *Teachers (except college & university)*								
Educational Services	5,236	6,270	19.7	86	132	218	4	7
III. Technical Occupations								
Cluster 6: *Health, Technicians & Services*								
Health Services	6,488	8,169	25.9	140	177	317	4	6
Cluster 6.1: *Registered Nurses in Health*								
Health Services	2,797	3,482	24.5	57	74	131	5	7
Cluster 6.2: *Health Technicians & Licensed Practical Nurses*								
Health Services	1,490	1,835	23.2	29	37	66	4	6
Cluster 7: *Technicians, other than Health*								
Manufacturing	2,749	3,604	31.1	71	60	131	4	7
Total Cluster 7	5,356	6,282	17.3	77	105	182	4	7
Cluster 8: *First Line Supervisors*								
Manufacturing	2,451	2,652	8.2	17	91	108	3	7
Total Cluster 8	2,817	3,123	10.9	26	106	132	3	7
Cluster 9: *Precision Production & Machine Operators*								
Manufacturing	15,894	16,291	2.5	33	574	607	2	5
Cluster 9.1: *Machine Operators/Setup*								
Manufacturing	11,430	11,252	-1.6	-15	387	372	2	4
Cluster 9.2: *Precision Production in Manufacturing*								
Manufacturing	4,464	5,039	12.9	48	187	235	3	6

Cluster 10: ***Mechanics, Installation & Repair Technicians***								
Manufacturing	1,824	2,243	23.0	35	72	107	3	6
Retail Trade	2,947	3,576	21.3	52	92	144	3	6
Total Cluster 10	8,715	9,484	8.8	64	265	329	3	6
IV. Skilled Physical Services								
Cluster 11: Construction Trades								
Construction	4,319	5,629	30.3	109	144	253	2	6
Total Cluster 11	4,916	6,052	23.1	95	161	256	2	6
Cluster 12: ***Police, Detective, Firefighting***								
Government	3,683	3,858	4.8	15	55	70	3	6
Cluster 12.2: ***Police & Detective***								
Government	2,486	2,638	6.1	13	38	51	3	6
V. Administrative Support & Sales Occupations								
Cluster 13: ***Secretaries, Stenographers, Typists***								
Manufacturing	2,440	2,287	-6.3	-13	80	67	3	5
Total Cluster 13	10,271	10,610	3.3	28	356	384	3	5
Cluster 14: ***Bookkeeping & Financial Administration***								
Retail Trade	2,495	2,546	2.0	4	114	118	3	4
Total Cluster 14	6,643	6,767	1.9	10	293	303	3	4
Cluster 15: ***Material Recording, Scheduling, Dispatching***								
Manufacturing	2,088	2,398	14.8	26	71	97	3	4
Retail Trade	2,705	3,064	13.3	30	93	123	2	4
Total Cluster 15	6,062	7,042	16.2	82	208	290	2	4
Cluster 16: ***Other Clerical & Administrative Support***								
Manufacturing	4,139	4,451	7.5	26	143	169	3	4
Wholesale Trade	1,438	1,898	32.0	38	61	99	3	4
Retail Trade	3,860	4,491	16.3	53	157	210	3	4
Finance, Insurance, Real Estate (FIRE)	3,063	3,579	16.8	43	114	157	3	5
Business & Legal Services	1,342	2,158	60.8	68	63	131	3	4
Health Services	1,739	2,180	25.4	37	77	114	3	4
Educational Services	2,097	2,466	17.6	31	98	129	3	4
Government	3,489	2,355	-32.5	-95	116	22	3	4
Total Cluster 16	24,170	26,988	11.7	235	936	1,171	3	4
Cluster 17: ***Sales/Marketing***								
Wholesale Trade	3,236	4,482	38.5	104	171	275	4	5
Retail Trade	37,340	42,746	14.5	451	1,872	2,323	3	4
Total Cluster 17	41,920	48,940	16.7	585	2,117	2,702	3	4
Cluster 17.1: *Sales Workers/Clerks/Cashiers*								
Retail Trade	32,147	36,618	13.9	373	1,603	1,976	3	4
Total Cluster 17.1	32,689	37,415	14.5	394	1,636	2,030	3	4
Cluster 17.2: *Other Sales/Marketing*								
Wholesale Trade	2,709	3,705	36.8	83	139	222	4	6
Retail Trade	5,193	6,128	18.0	78	269	347	3	6
Total Cluster 17.2	9,231	11,525	24.9	191	481	672	4	6

VI. Miscellaneous Service & Manual Work Occupations								
Cluster 18: ***Food & Beverage Preparation & Services***								
Retail Trade	20,629	25,123	21.8	375	701	1,076	2	3
Other Services	1,838	2,480	34.9	54	69	123	2	3
Total Cluster 18	23,099	28,303	22.5	434	790	1,224	2	3
Cluster 19: ***Handworking, including Assemblers***								
Manufacturing	3,848	3,866	0.5	2	127	129	2	3
Cluster 20: ***Cleaning & Building Services***								
Business & Legal Services	1,379	2,183	58.3	67	128	195	1	2
Total Cluster 20	4,483	5,752	28.3	106	367	473	1	2
Cluster 22: ***Motor Vehicle Operators***								
Total Cluster 22	4,369	5,265	20.5	75	165	240	2	3
Cluster 23: ***Helpers, Laborers, Material Handling***								
Manufacturing	4,471	4,207	-5.9	-22	116	94	1	2
Retail Trade	1,957	2,172	11.0	18	46	64	1	2
Total Cluster 23	9,218	10,006	8.5	66	240	306	1	2
Cluster 26: ***Farming & Agriculture-Related***								
Agriculture, Forestry, Fisheries	1,736	1,947	12.2	18	89	107	2	4
Total Cluster 26	1,736	1,947	12.2	18	89	107	2	4
Total Employment In All Clusters	226,813	260,078	14.7	2,772	8,734	11,506		
Total Employment In SDA 1	271,122	310,959	14.7	3,320	10,634	13,954		
Cluster Coverage	83.7%	83.6%						

Source: IOICC, *The State of Illinois Industry Employment Estimates, 1988 Annual Averages and Projected Year 2,000 Employment* (occupational employment data, for derivation see *Appendix B: Methodology*) and U.S. Department of Labor, *Dictionary of Occupational Titles* (GEP and SVP levels).

NCI used a two-step process to develop consolidated scores for the industry-occupational clusters. First, scores for the 13,000 DOT occupations were consolidated for the 800 OES occupations used in constructing the clusters. This involved creating an "average" score for each of the OES codes across all of its associated DOT codes, as specified in Department of Labor cross-walk tables. Scores for the 800 OES occupations were then used to derive scores for the industry-occupational clusters by weighting the scores according to the employment size of each occupation within each cluster. The end result is a measure of entry-level education and job-specific skill requirements for each cluster.

The GED scores measure educational attainment in three areas: reasoning development, mathematical development, and language development. There are six levels of attainment for each, denoted by digits from 1 to 6 (low to high). The GED figures shown in Table 1 represent an average of the three GED measures for each occupational cluster. The SVP measure indicates the amount of job-specific training or learning required for a particular occupation. There are nine levels, ranging from Level 1 (short demonstration only) to Level 9 (over ten years' preparation required). Appendix A provides definitions for each GED and SVP level in terms of skills and competencies.

The GED and SVP levels reported for each cluster in Table 1 are used in subsequent phases of the analysis. The GED scores measuring entry-level educational requirements are incorporated into the Employment Opportunity Index as a measure of barriers to occupational entry. The GED and SVP scores are also used as criteria for grouping occupations according to required education and skill levels in the summary table concluding this section (see "Employment Opportunities by Educational Category," below).

Employment Opportunity Index Components

The next step in the analysis involved an assessment of the occupational clusters to identify those likely to offer the best employment opportunities to disadvantaged individuals. NCI has developed an Employment Opportunity Index (EOI) that rates each cluster according to the nature and magnitude of the job opportunity for individuals with limited education and income. The EOI is a composite score for each occupational cluster, based on ratings for individual components. The index components are outlined below (see also the explanation of index values in Appendix B).

Magnitude of Hiring Demand. The EOI assigns the most weight to a cluster's projected hiring demand in 2000. Gross hiring demand should not be confused with employment growth; indicators for both are needed to assess the status of an occupation. For instance, manufacturing employment is declining; yet many more machinists will be hired over the next five years than paralegals (a fast-growing occupation). This is because replacement hiring in the large manufacturing sector generates significant labor demand.

A simple measure of annual hiring in an industry can be a misleading indicator if the objective is to identify jobs offering employment stability, since there are instances where high annual hiring demand results from unusually high turnover. In such cases, a disproportionate share of job openings results from replacement hiring rather than growth. The EOI incorporates the size of an industry's projected 2000 occupational employment base as a measure of hiring demand, thus reflecting the relative prominence of an industry in the labor market. However, the influence of replacement hiring, unlike growth demand, is not otherwise reflected in the index scores.

Growth Prospects. All other things being equal, occupations that are growing are clearly better opportunities than occupations that are declining. Growth scores are based on a number of measures including:

- Annualized rate of occupational employment growth in Lake County, 1988-2000 (based on projections)
- Whether a cluster incorporates high-growth occupations as identified by BLS for the U.S. as a whole
- Whether a cluster evidences cyclical sensitivity, based on the share of cluster employment in cyclical industries (i.e., construction, wholesale trade, manufacturing)

Labor Market Tightness. Certain occupations tend to be over-supplied with skilled labor, while others (e.g., registered nurses) suffer from severe skilled labor shortages. The Index incorporates measures of labor shortage or surplus based on unemployment rates[2]. "High-demand/low-supply" occupations, identified as those with low unemployment rates are considered good opportunities. Occupations with high unemployment rates are considered less promising, since either the supply of available workers greatly outnumbers demand or the occupation is overly sensitive to business cycle fluctuations (such as construction trades).

Wage Levels and Availability of Benefits. Occupations offering high wages and good employee benefits are better opportunities than those with low wages and few benefits. The wage and benefit patterns of occupation-industry clusters were scored using information from the following sources:

- BLS data on 1992 median wages by occupation in the United States
- A special BLS study that identifies occupations in the U.S. that combine high pay with low educational requirements
- Occupational turnover estimates derived from the replacement hiring projections
- The likely presence or absence of benefits[3]

Educational Requirements. Physicians may be in high demand, but the extensive training required represents a nearly insurmountable labor market barrier for individuals who are not academically inclined. The EOI has been calibrated to reflect occupational entry requirements, using GED scores as a measure of relative ease of entry.

Industry Strengths in the Region. A new component was incorporated into the EOI with this project: an indicator of industry strength in the SDA region. The indicator is based on scores derived for each of 13 major industry sectors using a newly-developed Comparative Structural Index (CSI). The CSI combines two measures: 1) the extent to which an industry has a relatively large presence in the SDA region (its location quotient) and 2) the recent relative performance of the industry, referred to as its "competitive position" (derived using a variant of shift-share analysis). Incorporating the CSI scores into the EOI gives more weight to industry-occupational clusters that represent local or regional strengths.

Both location quotients and the measures of competitive position require comparing figures for a local economy to those for a reference economy. In this case, the reference economy is the state of Illinois. Figures were developed for two configurations of the local economy: Lake County alone (SDA 1) and a large multi-county region called the SDA 1 Area (including Cook, DuPage, Kane, Lake, and McHenry counties in Illinois as well as Kenosha County in Wisconsin). The regional values were used for purposes of the EOI, although the results for Lake County are also of interest and are displayed along with the regional results in Table 2 below.

The CSI scores indicate that the SDA 1 Area has comparative strengths in four sectors: business, legal and miscellaneous services; wholesale trade; finance, insurance, and real estate (FIRE); and, to a lesser extent, transportation and public utilities. Lake County lags the region in all of these sectors, except wholesale trade, where it excels. However, Lake County has a number of industry strengths that are not shared by the region at large (e.g., construction, agricultural services, and manufacturing) and it outperforms the region overall with a positive CSI score for 9 of the 13 sectors. As discussed later in this report, the results of the CSI analysis for Lake County were combined with industry employment projections to identify locally strong industries that should be contacted for purposes of convening focus sessions.

Employment Opportunities by Educational Category

To facilitate analysis of employment opportunities for disadvantaged individuals, Table 3 groups occupational clusters into the following three categories reflecting entry-level education and skill requirements:

- Occupations requiring a high school education or less
- Occupations requiring less than four years post-secondary education
- Occupations requiring four to five years post-secondary education

The groupings are based on GED scores, reference materials on occupational characteristics, and interviews with employers. Note that the relatively broad occupational categories used here encompass a wide range of jobs with diverse skill requirements. The construction industry, for instance, hires many individuals with only a high school education or less. Becoming a certified master electrician, however, requires extended and rigorous post-secondary training which increasingly involves instruction in electronics. The groupings therefore are only approximate.

As shown in Table 3, the overall index average was 23.3. Values ranged from a low of 16.5 (Cluster 19: Handworking including Assemblers) to a high of 31.1 (Cluster 6.1: Registered Nurses). Of the three groups, the occupations in Group 2 generally represent the greatest opportunities for the disadvantaged population (the EOI average for group 2 of 26.8 is the highest among the three groups). In fact, almost all the clusters within this group have an index greater than the overall average of 23.2. Patterns emerging from the data are discussed below.

Group 1 Occupations. Occupations requiring a high school education or less are dominated by lower-paying, lower-skill jobs. In general, the occupations in this category are also less likely than others to include the full range of employee benefits and tend to be characterized by a higher proportion of part-time and temporary work.

There is very little in this category that replaces or maintains the role of the traditional blue-collar manual job that paid a middle-class wage. Even within manufacturing, which remains a significant employer, the quality, high-wage jobs are likely to require significantly higher entry level skills than in the past.

Table 2
Assessing Industry Strengths:
Industry Concentration, Relative Growth Performance and CSI Scores

A. SDA 1 Area: Lake County and Surrounding Area vs. State of Illinois

Industry Groups[1]	1989 Employment SDA 1 Area	1989 Employment Illinois	1989 Loc. Quot. SDA 1 Area vs. Illinois	1986-89 Employment Percentage Change SDA 1 Area	1986-89 Employment Percentage Change Illinois	Comp. Pos. SDA 1 Area vs. Illinois	CSI Score[2] SDA 1 Area
Business, Legal, and Misc. Services[3]	336,641	407,242	1.22	15.4	17.9	-1.9	1.2
Wholesale Trade	268,326	354,824	1.12	9.6	7.6	2.5	1.0
Finance, Insurance, and Real Estate	291,449	386,769	1.11	6.7	6.4	0.8	0.8
Transportation, Communication & Public Util.	187,709	273,863	1.01	14.9	14.1	1.5	0.2
Educational Services	58,847	79,604	1.09	-10.8	-3.6	-6.6	-0.0
Repair Services[4]	40,600	58,666	1.02	18.2	20.9	-2.0	-0.1
Health Services	257,807	408,793	0.93	23.2	19.4	4.5	-0.1
Construction	137,292	204,078	0.99	18.6	20.1	-0.8	-0.1
Other Services[5]	177,974	276,949	0.95	13.2	12.2	1.6	-0.2
Retail Trade	575,131	907,998	0.93	7.4	8.5	-0.4	-0.5
Personal Services	33,888	52,559	0.95	-4.0	-0.8	-2.5	-0.6
Manufacturing	660,765	1,036,621	0.94	-2.0	1.8	-3.1	-0.8
Agricultural Services, Forestry, Fishing[6]	9,499	16,242	0.86	31.1	30.6	1.1	-1.0

B. SDA 1: Lake County vs. State of Illinois

Industry Groups[1]	1989 Employment SDA 1	1989 Employment Illinois	1989 Loc. Quot. SDA 1 vs. Illinois	1986-89 Employment Percentage Change SDA 1	1986-89 Employment Percentage Change Illinois	Comp. Pos. SDA 1 vs. Illinois	CSI Score[2] SDA 1
Construction	10,984	204,078	1.25	69.9	17.9	37.9	5.4
Agricultural Services, Forestry, Fishing[6]	1,724	16,242	2.46	25.1	7.6	-17.4	4.7
Wholesale Trade	14,269	354,824	0.93	57.8	6.4	38.3	3.3
Repair Services[4]	2,469	58,666	0.97	52.4	14.1	19.6	1.8
Business, Legal, and Misc. Services[3]	16,505	407,242	0.94	42.3	-3.6	12.4	0.8
Retail Trade	44,964	907,998	1.15	14.9	20.9	-5.5	0.4
Health Services	16,678	408,793	0.94	38.9	19.4	7.6	0.3
Finance, Insurance, and Real Estate	14,534	386,769	0.87	31.1	20.1	12.8	0.3
Manufacturing	51,925	1,036,621	1.16	4.9	12.2	-8.8	0.2
Other Services[5]	9,748	276,949	0.81	15.8	8.5	-8.3	-2.3
Educational Services	2,839	79,604	0.83	-2.8	-0.8	-11.1	-2.5
Personal Services	2,248	52,559	0.99	-15.3	1.8	-26.3	-2.7
Transportation, Communication & Public Util.	5,104	273,863	0.43	18.8	30.6	-7.1	-6.8

[1] Groups include most broad "one-digit" sectors as defined by the federal Standard Industrial Classification (SIC) code (mining and government are excluded), plus selected "two-digit" service industry groups.

[2] Comparative Structural Index is defined as [1/2 log base 2(1989 Loc. Quot. SDA) + (1986-89 Comp. Pos./100)]x10. Coefficients were developed through experimentation to smooth out variation in the two index components and scale them to each other, weighting industry concentration slightly more than recent growth performance.

[3] Business, Legal, and Misc. Services is comprised of:
SIC 73 Business Services
SIC 81 Legal Services
SIC 87 Engineering and Management Services
SIC 89 Services, not elsewhere classified

[4] Repair Services is comprised of:
SIC 75 Auto repair, services, and parking
SIC 76 Miscellaneous repair services

[5] Other Services consists of:
SIC 70 Hotels and other lodging places
SIC 78 Motion pictures
SIC 79 Amusement and Recreation services
SIC 83 Social services
SIC 84 Museums, botanical, and zoological gardens
SIC 86 Membership organizations

[6] Agricultural Services, Forestry, Fishing consists of:
SIC 07 Agriculture Services
SIC 08 Forestry
SIC 09 Fishing, Hunting and Trapping
(SIC 01 Farming is excluded)

Source: Bureau of Census, *County Business Patterns, 1986 & 1989.*

Table 3
EOI Scores for Occupational Clusters, with Values for Selected Variables
SDA 1: Lake County

Cluster Number and Title		Index Score	Rank	2000 SDA 1 Employ.	1988-2000 Chg.(%)	1991 Median US Wages	GED	SVP
	GROUP 1: OCCUPATIONS REQUIRING A HIGH SCHOOL EDUCATION OR LESS							
17.1	Sales Workers/Clerks/Cashiers	24.2	1	37,415	14.5	$13,676	3	4
11	Construction Trades	23.7	2	6,052	23.1	24,284	2	6
18	Food & Beverage Preparation & Services	23.3	3	28,303	22.5	12,012	2	4
22	Motor Vehicle Operators	23.0	4	5,265	20.5	21,164	2	4
15	Material Recording, Scheduling, Dispatching	22.2	5	7,042	16.2	19,292	2	4
9.1	Machine Operators/Setup in Manufacturing	21.8	6	11,252	-1.6	17,472	2	4
6.4	Nurses Aides & Psychiatric Aides	21.1	7	1,492	27.7	13,884	3	4
20	Cleaning & Building Services	21.0	8	5,752	28.3	14,716	1	2
24	Hairdressing/Cosmetology[1]	19.5	9	825	18.9	13,676	3	6
26	Farming & Agriculture-Related	17.9	10	1,947	12.2	13,676	2	4
21	Protective Services (other than Fire & Police)	17.7	11	1,096	100.7	15,808	2	3
23	Helpers, Laborers, Material Handlers	17.5	12	10,006	8.5	15,860	1	2
25	Child Care Workers	16.8	13	321	34.3	6,864	3	3
19	Handworking, incl. Assemblers	16.5	14	3,866	0.5	18,460	2	4
	ALL CLUSTERS IN GROUP 1	19.1		120,634	15.4	$10,973	1	3
	GROUP 2: OCCUPATIONS REQUIRING LESS THAN FOUR YEARS POST-SECONDARY EDUCATION/TRAINING							
6.1	Registered Nurses in Health	31.1	1	3,482	24.5	$32,760	5	7
1.3	Mgmt. & Mgmt.-Related in Low-Order Services[2,3]	30.8	2	13,804	30.3	29,120	4	7
7	Technicians, other than Health	30.4	3	6,282	17.3	31,720	4	7
17.2	Other Sales/Marketing[4]	28.0	4	11,525	24.9	27,040	3	5
10	Mechanics, Installation & Repair Technicians	26.9	5	9,484	8.8	25,480	3	6
6.2	Health Technicians & Licensed Practical Nurses	26.8	6	1,835	23.2	21,996	4	6
9.2	Precision Production in Manufacturing	26.7	7	5,039	12.9	24,752	3	6
16	Other Clerical & Administrative Support[5]	25.0	8	26,988	11.7	18,980	3	4
12	Police, Detectives, & Fire Fighters	24.0	9	3,858	4.8	29,640	3	5
13	Secretaries, Stenographers, Typists	23.0	10	10,610	3.3	18,564	3	5
14	Bookkeeping & Financial Administration	21.5	11	6,767	1.9	18,148	3	4
	ALL CLUSTERS IN GROUP 2	26.8		99,674	14.0	$23,878	3	5
	GROUP 3: OCCUPATIONS REQUIRING FOUR TO FIVE YEARS POST-SECONDARY EDUCATION							
2.3	Engineers, Architects, & Surveyors plus Natural, Computer, & Math Scientists	29.2	1	7,986	19.8	$43,420	5	8
1.1	Mgmt & Mgmt.-Related in Mfg. & Health Services[2]	27.5	2	8,901	20.9	35,516	5	8
4	Teachers (except college & university)	27.0	3	6,270	19.7	28,080	4	7
6.3	Health Technologists & Therap. (excl. Mental Health)	26.2	4	1,360	31.8	26,000	4	7
5	Writers, Artists, Entertainers[6]	25.2	5	1,497	19.2	27,248	4	7
1.2	Mgmt & Mgmt.-Related in High-Order Services[2,7]	23.9	6	7,657	-4.7	38,480	5	7
3	Social, Recreation, & Religious Workers	21.4	7	1,418	8.5	23,348	4	7
	ALL CLUSTERS IN GROUP 3	25.8		35,089	13.6	$35,420	5	7
	ALL RANKED CLUSTERS[8]	23.3		255,397	14.6	$19,368	3	4
	ALL OCCUPATIONS IN SDA 1: LAKE COUNTY			310,959	14.7	$21,611	3	5

[1] The U.S. Median Wage has been adjusted to include tips, which are a major source of income within this occupation.

[2] The U.S. Median Wage is shown for "Managers" across ALL industries.

[3] Low-Order Services include Construction, Retail Trade, and Other Services.

[4] Other Sales/Marketing includes Insurance Sales Workers, Real Estate Agents & Brokers, Non-Retail Sales Reps., and All Other Sales and Related Workers.

[5] Other Clerical & Administrative Support includes Adjusters, Telephone Operators, Computer Operators, Mail & Messenger Distribution Workers, Records Processing, and All other Clerical and Administrative Support.

[6] Artists and Commercial Artists constitute a major portion of "Writers, Artists, Entertainers".

[7] The industries that comprise High-Order Services are FIRE, Business and Legal, and Government.

[8] No cluster with less than 100 employees is ranked in index.

Group 2 Occupations. Occupations requiring more than a high school diploma, but less than four years' post-secondary training, represent the most significant opportunities for upward economic mobility among lower-income individuals and families. Occupations in Group 2 score higher on the opportunity index because wage levels are higher relative to educational requirements than in either of the other two groups. In today's economy, these jobs fulfill the role that high-wage manufacturing jobs played in past decades. Some of the key patterns observed within this middle category are as follows.

Group 2 includes a number of *technician and technically-oriented occupations*, including occupations in the health field (registered nurses, health technicians and licensed practical nurses) as well as other types of technician occupations (technicians other than health, installation and repair mechanics, and precision production occupations). These results, which point to high opportunity in technical occupations, concur with studies by the BLS and Cohen (1990) cited above.

The listings in Group 2 also indicate potential overlooked opportunities in the *management* category of occupations, specifically "management in low-order services." These include a large number of jobs in the food and lodging industries as well as other retail and service businesses, including amusement and recreation services. Entry level positions include management trainee slots, assistant manager positions, and franchising opportunities.

This group also reveals a high proportion of *administrative and sales-oriented occupations*. The group's largest cluster is "other clerical and administrative support," which together with "secretaries, stenographers, and typists" and "bookkeeping and financial administration" account for 45 percent of the group's total employment. Also sizable is the "other sales and marketing" cluster. Like the technician occupations, these occupations are affected by computer technology, especially personal computers. Most word processing and financial tracking is now done by computer. These applications are becoming more sophisticated with the advent of more powerful software, desktop publishing capabilities, and the increased use of database management in the office.

The specific impact of personal computer technology on skill requirements and workforce organization is difficult to assess, partly because these occupations include a diverse range of jobs, but also because many employers have only recently begun to grapple with the implications of microcomputer technology. The focus group sessions were envisioned as appropriate forums to explore such issues.

Group 3 Occupations. Occupations requiring four to five years of post-secondary education are typically those that require a four-year college degree but not a masters degree for entry. These occupations present opportunities for individuals who may have limited resources to finance higher education, but who perform well in community college and can continue through four or five years of post-secondary education, perhaps with financial assistance or by attending night school while working.

The largest cluster in Group 3 is *management and management-related occupations* in manufacturing and health services. Almost as large, and scoring even higher, is the occupational category of "engineers, architects, and surveyors plus natural, computer, and math scientists"--a category that includes a large number of persons in various electronics and computer fields. Teaching also emerges as a fairly promising occupation for those able to pursue four-year college degrees.

Summary of EOI Assessment

The EOI assessment indicated that occupations in the health care field as well as administrative and sales occupations were among the most promising opportunities identified for individuals pursuing limited post-secondary preparation. The analysis also identified three occupations in manufacturing as promising targets for occupational development: production technicians; mechanics, installers, and repairers; and recording keeping and information processing occupations.

Follow-up discussions with industry experts provided further information about the nature of the opportunities within the targeted occupational clusters. In health care, the nursing cluster--including such occupations as certified nursing aide, licensed practical nurse (LPN), registered nurse (RN), and medical assistant--is an area of growth. Another is medical technician occupations, such as radiologic technician, medical lab technician, physical therapy assistant, and medical records technician. The health care industry is currently very fluid; although hospital employment is declining, opportunities in direct outpatient care--such as home health care and case management--are expanding. The two general categories of *nursing occupations* and *medical technician occupations* were selected as topics for one of the Lake County focus group sessions.

Among administrative and sales occupations, four groupings were identified as offering promising entry-level opportunities. One broad grouping can be characterized as *sales and marketing occupations*, including counter and rental clerks, sales agents, travel agents, and a broad array of customer service occupations (ranging from receptionists, at the lower end of the pay scale, to highly-paid account executives). A second growth area is *administrative support occupations*, such as computer operators and schedulers/traffic clerks. These are the information processing occupations that are commonly equated with the position of administrative assistant, an occupation that has largely replaced that of secretary. Individuals in these occupations must know how to work with different software applications. They process the financial, textual, or visual information used by those in the sales and marketing positions.

Another occupational category with strong entry-level potential in the administrative and sales cluster includes *managerial and administrative occupations in low-order services*, such as management trainees at fast food restaurants or business service establishments. A fourth occupational grouping deemed promising in this cluster comprises *installation and repair services* occupations, such as computer and office equipment repairers and communications equipment installers and repairers. In today's information processing environment, the computer equipment specialist requires different skills from the traditional equipment installer and repairer. There is a heavy emphasis on analytical and diagnostic ability, as well as customer service skills.

These four administrative and sales-related occupational clusters were selected as the subject for a second Lake County focus group session.

In the manufacturing sector, one of the three targeted clusters is *general production technician* occupations, such as precision production workers (machinists, tool and die makers) and industrial equipment technicians. These occupations entail setting up production jobs and operating advanced equipment, with responsibility for the timeliness and quality of output. In today's environment, these occupations often require the ability to work with computer numerically controlled (CNC) machines and to interpret CNC feedback.

Opportunities also exist in manufacturing for *mechanics, installers, and repairers*. These are individuals charged with keeping the manufacturing process going, such as electronic and electrical equipment mechanics and industrial maintenance mechanics. A third area of opportunity, in manufacturing as elsewhere, is occupations involving *record keeping and information processing* (e.g., financial records processing, material records, scheduling and dispatching clerks, and computer processors). As customized production assumes greater importance, there is a growing need for individuals who can handle information and communicate effectively with both suppliers and customers. These three manufacturing occupations were selected as the subject for a third Lake County focus group session.

The information developed from the focus group sessions is discussed in the next section of this report.

Notes:

[1] National Occupational Information Coordinating Committee, *Vocational Preparation and Occupations*, Third Edition, Volume 1 (December 1982): 40-44.

[2] Malcolm S. Cohen, *Measurement of Labor Shortages*, University of Michigan, p.8. Paper presented at the annual meeting of the Allied Social Science Associations, December 1990. See also, Appendix B: Methodology.

[3] The source for information on benefits was *The Almanac of Jobs and Salaries* by John W. Wright and Edward J. Dwyer, New York: Avon Publishers, 1990.

EDUCATION AND SKILL REQUIREMENTS FOR TARGETED OCCUPATIONS

The analyses described in the preceding section identified a number of occupations representing promising alternatives for the JTPA-eligible population and others who may be unwilling or unable to pursue extended post-secondary preparation leading to a college degree. Once these occupations were identified, the next step was to convene representatives of local industries to develop more insight into changing occupational structure and to determine more precisely the skills and competencies required for entry.

To ensure that key industries were represented, NCI identified those that met the following criteria:

- Industry rated a positive CSI score, indicating a relatively large local presence and relatively strong employment growth in recent years
- Industry employment comprised 4 percent or more of total SDA employment in all clusters in the base year (1988)
- Industry is projected to increase employment in the 1988-2000 period

The industries in SDA 1 that meet these criteria are identified below in Table 4.

Table 4
Key Industries[1]
SDA 1

Industries	Employment 1988	Employment Proj. 2000	1988-2000 Change (%)
Construction	9,687	12,120	25.12
Wholesale Trade	12,288	16,982	38.20
Business, Legal & Misc.	14,399	22,629	57.15
Retail Trade	44,150	51,834	17.40
Health Services	15,210	18,946	24.56
FIRE	11,938	13,639	14.25
Manufacturing	43,489	48,738	12.07
366 Communication Eqpt.	125	3,625	2800.00
283 Drugs	9,830	11,286	13.05

[1] Key industries are those with a positive comparative structural index score, at least 4 percent of total employment in all clusters, and positive projected employment.

Source: Economic Information and Analysis Division, Dept. of Employment Security

Three focus group sessions were convened in Lake County to address occupational opportunities in health care, administrative support and sales, and manufacturing. Materials provided in advance asked participants to come prepared to discuss three major questions:

(1) What are the best entry-level jobs in these occupational clusters?
(2) What new skills are required for these jobs?
(3) How can we prepare people for these jobs?

The information generated during the sessions is summarized below for each of the focus groups.

Health Care Occupations

The focus group session for health care occupations involved nine employer representatives from different segments of the health care industry including nursing homes, family care agencies, county health departments, hospitals, agencies serving the needs of the developmentally disabled, and home health care.

The industry analysis conducted by NCI Research had identified two broad occupational clusters for the focus group discussion: (1) nursing professions including certified nursing aide, licensed practical nurse, registered nurse and medical assistant, and (2) medical technicians including radiologic technician, medical lab technician, physical therapy assistant, and medical records technician.

Best Entry-Level Jobs. The group confirmed the strong demand for the nursing and medical technician occupations identified in the NCI analysis. The following specific occupations were discussed: homemaker, staff nurse, registered nurse, mental health technician, patient service representative, physical therapy aide, medical equipment repair technician, occupational therapy aide, radiology technician, echo-technologist, vascular technician, phlebotomist, medical records technician, certified nursing aide, licensed practical nurse, and medical assistant.

The group focused on two major clusters:

- Nursing professions including registered nurse, licensed practical nurse, and certified nursing aide
- Medical technicians

New Skill Requirements for Entry-Level Jobs. Focus group members reported major changes in the skill requirements for both the nursing professions and medical technicians. First, continual changes in diagnostic and therapeutic procedures and biomedical technology have greatly increased the technical skill requirements of all health care occupations. These technical skills are addressed in professionally accredited programs, state licensing requirements, and the professional training offered by employers and professional associations in the health care industry. These technical or clinical skills were not directly addressed in the focus group session. Second, major changes in the organization of health care delivery and continuing pressures for quality and cost control also have forced employers to enlarge job responsibilities and relationships and require new general skills for even front-line health care workers. These new skills were directly addressed in the focus group session.

Nursing Professions. The role of registered nurses in health care continues to expand. They must now take on more management and documentation responsibilities. They must be able to communicate effectively with other health care professionals and patients and their families. They must be able to read and write clearly. Licensed practical nurses and certified nursing aides are being asked to become more directly involved in planning, executing, and evaluating patient care. Many times they are asked to take on more responsibility than their education has prepared them to handle. They need more clinical or practical experience than ever before. They also need better judgment and decision making skills. They need better communication skills, including listening skills and oral and written communication skills. They also must be able to work with cultural diversity. Finally, all nursing professions now require a much stronger customer service orientation including patient empathy and receptivity and strong interpersonal and listening skills.

Medical Technicians. The medical technicians now are required to have many of the same critical skills as the nursing professions including a strong customer service orientation and strong communication skills. They must be independent, organized, and results-oriented. They must have the social and interpersonal skills to work effectively in a team environment. They must have strong math and computer skills and strong analytical skills. They must be thorough and detail-oriented for proper documentation and record-keeping.

Critical Skills for Entry-Level Health Care Jobs. Most focus group participants identified a core set of critical skills that are required for all entry-level nursing and medical technicians. These critical skills were evident in the ratings of the SCANS skills for different entry-level jobs. The fifteen SCAN skills that were rated most frequently as highly critical (rating of "4") or extremely critical (rating of "5") were:

SCAN Skill	Average Score
1. Personal Qualities-Integrity/Honesty	5.0
2. Personal Qualities-Responsibility	4.7
3. Works with Cultural Diversity	4.7
4. Personal Qualities-Sociability	4.6
5. Serves Clients/Customers	4.6
6. Participates as a Member of a Team	4.4
7. Personal Qualities-Self-Esteem	4.4
8. Personal Qualities-Self-Management	4.3
9. Basic Skills-Listening	4.3
10. Problem Solving	4.2
11. Basic Skills-Speaking	4.0
12. Basic Skills-Reading	4.0
13. Manages Time	4.0
14. Teaches Others	4.0
15. Reasoning	4.0

Preparing People for Entry-Level Jobs. The focus group emphasized that it is more the foundation skills and competencies rated as critical in the SCANS survey that have changed, than the specific technical skill requirements of the health care professions. There is a growing gap between employer expectations of accountability and responsibility and entry-level workers' work ethic and attitudes. The most serious problem now is filling assistant and aide positions, including certified nursing aides, medical technician assistants, and physical therapy assistants and aides.

Implications for Employment and Training Programs. Focus group participants confirmed the strong employment opportunities for a wide variety of nursing and medical technician occupations targeted in the NCI analysis.

Based on the focus group discussion, the Private Industry Council of Lake County should consider two major actions to expand the supply of health care aides. First, the Council should convene health care employers to explore ways to improve career and earning opportunities for individuals entering the health care industry as certified nursing aides. A critical issue is how to make this occupation an entry-point for upgrading to a licensed practical nurse or a registered nurse. Second, the Council should take similar actions with medical technician occupations, exploring how to develop career paths so that assistant and aide positions can upgrade to higher-level medical technician positions.

Administrative and Sales Occupations

The focus group session for administrative and sales occupations involved four representatives of employers including an electric utility and companies engaged in employment services, newspaper publishing, and insurance.

The industry analysis conducted by NCI Research had identified four broad occupational clusters for the focus group discussion: (1) administrative support including customer service representatives and secretarial and clerical occupations, (2) sales and marketing occupations including sales clerks and sales agents, (3) managerial and administrative occupations including management trainees at business and food service establishments, and (4) installation and repair occupations including computer and office equipment repairers and communications equipment installers and repairers.

Best Entry-Level Jobs in Targeted Occupational Clusters. The group confirmed that there is a strong demand for individuals to fill administrative support positions. However, such jobs are becoming more multidimensional than traditional secretarial, clerical, and receptionist occupations, with more emphasis on information management and problem-solving skills. The group reported that such occupations are being redefined into two distinct occupational groups: 1) administrative assistants, who must be adept at information management, particularly as it relates to internal operations, and 2) customer service representatives, who also must be skilled information managers, but with a strong emphasis on external relations. The group discussed the growing need for both administrative assistants and customer service representatives in a wide variety of service industries.

In addition to administrative support occupations, the group confirmed the need for sales clerks and sales agents in a variety of service industries in Lake County. The ensuing discussion focused on sales clerks.

Other Major Entry-Level Occupations. The group also identified other entry-level jobs including insurance benefit processors, telemarketers, installation and repair technicians, meter readers, and computer systems support technicians. Although these occupations were discussed, this report focuses major attention on (1) customer service representatives, (2) administrative assistants, and (3) sales clerk.

New Skill Requirements for Entry-Level Jobs. As noted above, focus group members reported that most service industries are redesigning administrative support jobs into two distinct career paths leading to positions as either administrative assistants or customer service representatives. This change has been driven by a number of factors. First, the increasing use of computer technology in information processing and management has reduced the need for full-time secretarial and clerical staff for routine information processing such as data entry, written correspondence and mailings, report production, filing and data management, and information retrieval.

Second, the strong competitive pressures for improved customer satisfaction and retention after the point of initial sales have led many companies to devote more personnel time to customer service functions. The major trend is to shift personnel from purely administrative support to more direct contact with and service to external customers. This also has allowed full-time sales agents to devote more time to developing new customers.

Customer Service Representative. The customer service representative is the keystone or focal point of customer relations and services within a company. This new occupation combines duties and responsibilities of general secretarial, clerical, and receptionist jobs with the customer service responsibilities of sales agents. Customer service representatives must have an extensive technical knowledge of the industry (e.g., insurance, employment services) and a comprehensive understanding of the company including the full range of products and services, similar to a sales agent. This is necessary to successfully address customer requests and problems, which may involve extensive communications with internal operating units and sales agents. It also is necessary to manage and expand sales accounts based on customer needs.

Customer service representatives also must demonstrate a strong customer orientation, including strong people skills and strong concern for the total satisfaction and comfort of customers with the products and services provided by the company. In addition, customer service representatives must have proven skills in computer-based information management including keyboarding skills and expertise in standard data base management, spreadsheet, and word-processing software applications--similar to the skills involved in secretarial and clerical jobs.

Customer service representatives must have strong basic skills. These skills include "on-line" decision-making and problem-solving skills that can be used to address a wide range of customer problems and needs within a very short turnaround time. They must have strong math skills and communication skills including written and oral communication skills, especially listening skills. They must have the interpersonal skills necessary to work in teams, resolve conflicts and demonstrate empathy with customers. They must be self-starters with strong personal initiative. They must be able to work independently and be able to manage their own time and resources under heavy workloads. Finally, customer service representatives must have good work attitudes and ethics and must display responsible work behavior at all times.

Administrative Assistant. Most companies in service industries are substantially reducing the number of lower-level administrative support positions including office clerks and secretaries because of work redesign and greater productivity due to office automation. Most secretaries are now being used by upper managers and work units as administrative assistants with broad duties and responsibilities including information management. They must have strong technical knowledge and computer-based information management skills, similar to the customer service representative. They also must have strong clerical skills to generate, organize, maintain, and access information for administrative and sales support. They must be able to manage multiple duties and priorities within a team environment. They also must have strong customer orientations.

Sales Clerk. The group confirmed the strong demand for sales clerks in a variety of service industries, especially the retail industry. Sales clerks must have basic people skills for effective face-to-face interaction. They must have a good personal appearance including a strong self-presentation. They also must have an effective sales orientation that reflects an understanding that customer sales and retention is based on meeting customer needs. This requires strong communication skills including listening skills. Finally, sales clerks must have a thorough knowledge and understanding of the company's product or service.

Critical Skills for Entry-Level Jobs. Most focus group participants identified a core set of critical skills that are required for all entry-level administrative support and sales occupations. These critical skills were evident in the ratings of the SCANS skills for different entry-level jobs. The ten SCAN skills that were rated most frequently as highly critical (rating of "4") or extremely critical (rating of "5") were:

SCAN Skill	Average Score
1. Serves Clients/Customers	5.0
2. Speaking	4.8
3. Integrity/Honesty	4.6
4. Responsibility	4.4
5. Sociability	4.4
6. Organizes and Maintains Information	4.4
7. Uses Computers to Process Information	4.4
8. Works with Cultural Diversity	4.4
9. Participates as a Member of a Team	4.4
10. Listening	4.2

The group also identified some major gaps between these required skills and the skills of entry-level workers, particularly when it comes to the flexibility to learn new skills, work attitude and commitment, the ability and willingness to take responsibility and make decisions, written communication skills, and computer skills.

Preparing People for Entry-Level Jobs. Focus group participants had a number of suggestions for preparing people for entry-level jobs in administrative support and sales occupations, especially customer service representatives. The group emphasized the need to establish a training program in which people received basic training in information management and customer service, with industry providing the appropriate technical knowledge and training. Employers should be more involved in designing training programs and curriculums. The group also emphasized the need for basic training and work experience for entry-level sales professionals before they can enter higher-level sales agents positions.

Most focus group participants emphasized the need to prepare people in how to demonstrate critical job skills in the application and interview process. All job applicants for administrative support and sales occupations should demonstrate a strong orientation to customer service, positive work attitudes and commitment, and effective communication skills. These qualities can be indicated to a future employer by the completion of any type of education and training program, as well as by the applicant's enthusiasm and pride in education and work accomplishments. All job applicants should demonstrate a positive work attitude and commitment by demonstrating prior knowledge of the company and stating clear reasons for wanting a position at the company. Applicants also should demonstrate responsible work behavior through a continuous work history and strong employer references. They can demonstrate effective communication skills through the completion of a written application and resume and the job interview. Focus group members reported that most job applicants do not know how to complete job applications, write resumes, or conduct themselves in a job interview.

Implications for Employment and Training Programs. Focus group participants confirmed the strong employment opportunities in the administrative and sales occupations targeted in the NCI analysis. Based on the focus group discussion, the Private Industry Council of Lake County should consider three major actions.

First, the Council should consider a review and restructuring of all training programs for administrative support occupations including clerical, secretarial, and receptionist jobs to prepare people for careers as either administrative assistants or customer service representatives. Both career development programs should include training in information management and customer service.

Second, the Council should consider new strategies to provide training and entry-level work experience for sales professionals that would allow them to progress to higher-level sales positions.

Third, the Council should review all existing training programs for administrative support and sales occupations to insure that the critical skills discussed in this report are included in these programs.

Manufacturing Occupations

The focus group session for manufacturing occupations in Lake County was attended by 13 employer representatives from a wide variety of industries including communication equipment, metal fabrication, industrial equipment and machinery, consumer and industrial coatings, health care pharmaceuticals and supplies, chemicals, plastics, electronic components, and temporary employment services for the manufacturing industry.

The industry analysis conducted by NCI Research had identified three broad occupational clusters for the focus group discussion: (1) general production technicians including machine operators and assemblers, (2) mechanics, installers, and repairers including industrial maintenance mechanics, and (3) records and information processing including customer service representatives and related administrative support occupations.

Best Entry-level Jobs. The focus group members emphasized that manufacturing companies are largely information processing companies with only a small percentage of employees involved in direct manufacturing or production. The group identified a wide variety of entry-level jobs in manufacturing in Lake County. These included general production and assembly workers, conventional and CNC machine operators, quality inspectors, quality auditors, quality technicians, electronics technicians, office managers, secretaries and office clerks, welders, industrial mechanics and repairers, and material handlers and shippers.

The focus group members confirmed the strong and wide-spread demand for three major manufacturing occupations targeted in the NCI analysis:

- Production Technicians: general production and assembly workers and advanced production operators;
- Customer Service Representatives: administrative and sales support workers (including office clerks) involved in receiving, processing, and managing customer orders; and,
- Industrial Maintenance Technicians: mechanics, installers, and repairers of industrial equipment.

The group emphasized that production technicians with appropriate skills are hard to find, especially skilled technicians with one or two years' experience. The group also emphasized that industrial maintenance technicians are in demand but are not entry-level positions in manufacturing companies.

New Skill Requirements for Entry-level Jobs. Focus group members identified the most essential skill requirements for entry-level manufacturing jobs, in particular general production and assembly technicians. Most companies require stronger technical and basic skills because front-line workers are now being asked to take more responsibility in planning, executing, and evaluating their own work with much less supervision.

Critical Skills for Entry-Level Manufacturing Jobs. The group emphasized the need for a core set of technical skills and strong foundation skills. The general technical skills include shop math, schematics and blue-print reading, precision measurement, identification and use of common hand tools, basic soldering and welding, workplace safety, orientation to production and quality concepts, and personal computer skills.

The required foundation skills include a strong work ethic, good values and attitudes, written and verbal communication skills including basic English, leadership qualities, interpersonal and teamwork skills including working with cultural diversity, problem-solving and decision-making skills, self-management skills including the ability to organize and prioritize work, thoroughness and accuracy, and adaptability and flexibility.

Rating of SCANS Skills for Entry-level Manufacturing Jobs. These critical skills were evident in the ratings of the SCANS skills for different entry-level production operators and assembly jobs. The fifteen SCAN skills that were rated most frequently as highly critical (rating of "4") or extremely critical (rating of "5") were:

SCAN Skill	Average Score
1. Personal Qualities-Responsibility	4.6
2. Basic Skills-Arithmetic	4.6
3. Works with Cultural Diversity	4.6
4. Basic Skills-Reading	4.5
5. Participates as a Member of a Team	4.5
6. Personal Qualities-Responsibility	4.3
7. Personal Qualities-Self-Esteem	4.2
8. Personal Qualities-Self-Management	4.1
9. Personal Qualities-Sociability	4.0
10. Problem Solving	3.9
11. Mental Visualization	3.9
12. Applies Technology to Task	3.9
13. Basic Skills-Speaking	3.8
14. Basic Skills-Listening	3.7
15. Basic Skills-Knowing How to Learn	3.6

Preparing People for Entry-Level Jobs. Focus group participants had a number of suggestions for how to prepare people for entry-level manufacturing jobs. First, participants strongly emphasized the need for educators to connect education and training programs to the real world of manufacturing. There was special emphasis on the need to build the foundation skills required for all entry-level manufacturing jobs. The group emphasized throughout the session that they could not find people with basic academic, social and technical skills who could be trained by the company. They feel that schools and related training programs must instill strong work values and attitudes in students so they develop commitment beyond working simply for a paycheck. Students must learn what employers expect from entry-level workers, which includes responsible and ethical work behavior and a willingness to learn and work cooperatively in a team environment.

Second, employers suggested closer connections between schooling and work experience, such as apprenticeships or cooperative education arrangements between schools and employers. Third, employers suggested the need to emphasize quality to students by establishing quality standards for schools and training programs.

Implications for Employment and Training Programs. Focus group participants confirmed strong employment opportunities for production technicians, industrial maintenance technicians, and customer service representatives. Based on the focus group discussion, the Private Industry Council of Lake County should consider two major actions. First, the Council should convene employers from major manufacturing industries to discuss common problems in finding qualified entry-level production technicians in Lake County. The Council should work with employers to explore options in two areas: 1) expanding and improving school-to-work programs at high schools and community colleges and 2) employment and training programs to upgrade skills of adult workers with manufacturing experience. The Council should insure a strong emphasis on the technical skills and foundation requirements identified in this report.

Second, the Council should convene employers to discuss the need for new training programs for customer service representatives in manufacturing industries.

The Need to Institutionalize Local Labor Market Information Systems

The vitality of local economies depends increasingly on an educated and trained workforce. As a result there is a growing need for a broad-based labor market planning process to guide the human resource investment decisions which are being made by educators, employers, and local employment and training officials. The key to an effective labor market planning process is obtaining timely information and analysis on local economies, labor markets, work-based skill and competency requirements, and labor-related institutions. This decisionmaking information can enable JTPA program administrators to evaluate alternative strategies for achieving a quality workforce as objectively and as rationally as possible.

The methodology applied here can be used to help shape long-term employment generating policies, going beyond efforts to refine short-term job placement programs. Benefits of the project include providing a solid empirical foundation for policy analysis related to local workforce preparation and development of a local labor market information system that adds value to the data and information currently being generated by state and federal agencies. Specific advantages include the following:

- Analysis of the local economy facilitates a training policy perspective focusing on unique local strengths and comparative advantages.
- Industry/occupational clustering focuses attention on a manageable number of industries and occupations offering significant employment opportunities.
- The Employment Opportunity Index provides a means to assess the merit of specific training alternatives especially in relation to the needs of persons with differing educational backgrounds.
- Industry representation on the project facilitates private sector involvement and ensures the applicability of project results to the needs of business.
- The assessment of changing occupational skills and competencies necessitates the evaluation of local vocational curricula and required industry basic skills.

Beyond these immediate outcomes and in addition to enhancing objective decisionmaking, the replicable standard process illustrated here can lead to more efficient use of professional planning resources in local government.

APPENDIX A: MEASURES OF EDUCATION AND SKILL LEVELS

Scale of General Education Development (GED)

Reasoning Development	Mathematical Development	Language Development
Level 1 Apply commonsense understanding to carry out simple one- or two-step instructions. Deal with standardized situations with occasional or no variation in or from these situations encountered on the job.	Add and subtract two-digit numbers. Multiply and divide 10's and 100's by 2, 3, 4, 5. Perform the four basic arithmetic operations with coins as part of a dollar. Perform operations with units such as cup, pint, and quart; inch, foot, and yard; and ounce and pound.	*Reading*: Recognize meaning of 2,500 (two- or three-syllable words. Read at a rate of 95-120 words per minute. Compare similarities and differences between words and between series of numbers. *Writing*: Print simple sentences containing subject, verb, and object, and series of numbers, names, and addresses. *Speaking*: Speak simple sentences using normal word order, and present and past tenses.
Level 2 Apply commonsense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables in or from standardized situations.	Add, subtract, multiply, and divide all units of measure. Perform the four operations with like common and decimal fractions. Compute ratio, rate and percent. Draw and interpret bar graphs. Perform arithmetic operations involving all American monetary units.	*Reading*: Passive vocabulary of 5,000-6,000 words. Read at rate of 190-215 words per minute. Read adventure stories and comic books., looking up unfamiliar words in dictionary for meaning, spelling, and pronunciation. Read instructions for assembling model cars and airplanes. *Writing*: Write compound and complex sentences, using cursive style, proper end punctuation, and employing adjectives and adverbs. *Speaking*: Speak clearly and distinctively with appropriate pauses and emphasis, correct pronunciation, variations in word order, using present, perfect, and future tense.
Level 3 Apply commonsense understanding to carry out instructions furnished in written, oral or diagrammatic form. Deal with problems involving several concrete variables in or from standardized situations.	Compute discount, interest, profit, and loss; commission, markup, and selling price; ratio and proportion, and percentage. Calculate surfaces, volumes, weights, and measures. *Algebra*: Calculate variables and formulas; monomials and polynomials; ratio and proportion variables; and square roots and radicals *Geometry*: Calculate plane and solid figures; circumference, area, and volume. Understand kinds of angles, and properties of pairs of angles.	*Reading*: Read a variety of novels, magazines, atlases, and encyclopedias. Read safety rules, instructions in the use and maintenance of shop tools and equipment, and methods and procedures in mechanical drawing and layout work. *Writing*: Write reports and essays with proper format, punctuation, spelling, and grammar, using all parts of speech. *Speaking*: Speak before an audience with poise, voice control, and confidence, using correct English and well-modulated voice.

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Level 4 Apply principles of rational systems to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic, or schedule form.	*Algebra*: Deal with system or real numbers; linear, quadratic, rational, exponential, logarithmic, angle and circular functions, and inverse functions; related algebraic solution of equations and inequalities; limits and continuity, and probability and statistical inference. *Geometry*: Deductive axiomatic geometry, plane and solid; and rectangular coordinates. *Shop Math*: Practical application of fractions, percentages, ratio and proportion, mensuration, logarithms, slide rule, practical algebra, geometric construction, and essentials of trigonometry.	*Reading*: Read novels, poems, newspapers, periodicals, journals, manuals, dictionaries, thesauruses and encyclopedias. *Writing*: Prepare business letters, expositions, summaries, and reports, using prescribed format and conforming to all rules of punctuation, grammar, diction and style. *Speaking*: Participate in panel discussions, dramatizations, and debates. Speak extemporaneously on a variety of subjects.
Level 5 Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions in mathematical or diagrammatic form. Deal with several abstract and concrete variables.	*Algebra*: Work with exponents and logarithms, linear equations, quadratic equations, mathematical induction and binomial theorem, and permutations. *Calculus*: Apply concepts of analytic geometry, differentiations and integration of algebraic functions with applications. *Statistics*: Apply mathematical operations to frequency distributions, reliability and validity of tests, normal curve, analysis of variance, correlation techniques, chi-square application and sampling theory, and factor analysis.	*Reading*: Real literature, book and play reviews, scientific and technical journals, abstracts, financial reports, and legal documents. *Writing*: Write novels, plays, editorials, journals, speeches, manuals, critique poetry, and songs. *Speaking*: Conversant in the theory, principles, and methods of effective and persuasive speaking, voice and diction, phonetics, and discussion and debate.
Level 6 Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.) in its most difficult phases. Deal with a variety of abstract and concrete variables. Apprehend the most abstruse classes of concepts.	*Advanced calculus*: Work with limits, continuity, real number system, mean value theorems, and implicit function theorems. *Modern algebra*: Apply fundamental concepts of theories of groups, rings, and fields. Work with differential equations, linear algebra, infinite series, advanced operations methods, and functions of real and complex variables. *Statistics*: Work with mathematical statistics, mathematical probability and applications, experimental design, statistical inference, and econometrics.	Same as Level 5.

Specific Vocational Preparation (SVP)

Level
1 Short demonstration only
2 Anything beyond short demonstration up to and including 30 days
3 Over 30 days up to and including 3 months
4 Over 3 months up to and including 6 months

Level
5 Over 6 months up to and including 1 year
6 Over 1 year up to and including 2 years
7 Over 2 years up to and including 4 years
8 Over 4 years up to and including 10 years
9 Over 10 years

APPENDIX B: METHODOLOGY

Employment Projections

The industry and occupational employment figures (1988 annual averages and year 2000 projections) that appear in the report were obtained from the Illinois Occupational Information Coordinating Committee (IOICC) for each Service Delivery Area. These statistics are developed by the Economic Information and Analysis Division, Illinois Department of Employment Security (IDES). IDES translates industry figures into occupational employment statistics and projections using industry-occupational matrices.

Targeting Key Industries

To determine industry strengths in each SDA and in the labor market area surrounding each SDA, NCI has developed a Comparative Structural Index (CSI). The CSI is an overall measure of industry strength that takes into account two other indicators: 1) the location quotient, which measures the SDA's relative concentration of employment in each industry and 2) the comparative position indicator, derived from a variant of shift-share analysis, which measures industry growth in the SDA relative to a reference economy. Both the location quotient and the competitive position measure use the State of Illinois as a reference economy.

The equation for the Comparative Structural Index is as follows:

CSI = 10 x [1/2 log base2 (1989 LQ for SDA area i vs. Illinois) + (1986-89 Competitive Position for SDA Area i vs. Illinois/100)]

where i = SDA 1, 2, 14, or 26

The CSI was used in this study to identify important industries in the SDA economy for inclusion in the focus group analysis. It is also used as an industry variable in the Employment Opportunity Index.

Employment Opportunity Index

The Employment Opportunity Index was developed to rate occupational clusters according to the appropriateness and magnitude of the opportunity presented to disadvantaged individuals (assuming suitable employment and training policies are in place). The index incorporated the following components, assigned values as indicated.

- *Magnitude of hiring demand*
    - Natural log of projected occupational employment in 2000 multiplied by 1.5 (range: +14 to +19 points)
- *Growth prospects*
    - Annualized growth rate 1988-2000 multiplied by 1.5 (range: -3 to +3 points)
    - Cyclical sensitivity, or share of cluster employment in cyclical industries weighted as follows:

Construction	- 2.0
Wholesale trade	- 1.0
Manufacturing	- 0.5

(range: -1.75 to 0)

- Dummy variable indicating whether cluster is among the occupations projected by BLS to be the fastest growing in the 1986-2000 period (value: 0 or +1)

- *Labor market tightness*
    - Unemployment rate as reported by BLS for the nation in its *Employment and Earnings* series, scored as follows:

Low (<3.5% in 1989)	+ 1
Medium (3.5% - 7% in 1989)	0
High (>7% in 1989)	- 1

- *Wage levels and availability of benefits*
    - Median weekly wage by occupation in 1992 as reported by BLS, divided by 100 (range: +2 to +7.6)
    - Whether occupation combines high pay and low educational requirements, per BLS study (range: 0 to + 2)

- Likely presence (value: 0) or absence (value: -1) of benefits
- Occupational turnover estimate derived from replacement hiring projections

- *Educational Requirements*
  - Barriers to entry variable, using following measures:

GED < 4	0
GED = 4	- 1
GED > 4	- 3

- *Industry Strengths, Comparative Structural Index*
  - Occupational clusters with a significant percentage of employment in those industries with a high Comparative Structural Index (CSI) score are rated more highly in the EOI. Based on CSI scores, industry weights were assigned as follows,

CSI less than or equal to -3	-3
CSI more than -3 but less than -1	-1
CSI equal to or more than -1, but less than 1	0
CSI more than 1 but less than 3	1
CSI equal to or more than 3	3

Using this industry weighting scheme, a score is derived for each occupational cluster based on the percentage of cluster employment accounted for by each industry. The composite score is incorporated into the Employment Opportunity Index.

SCANS Skill Survey

A standardized survey instrument was sent in advance to focus group participants asking them to indicate how critical certain identified "foundation skills" and "workplace competencies" are for the occupations to be discussed in the focus sessions. The chart below identifies the skills and competencies included in the survey and provides the rating scale used. The 15 competencies or skills that were rated as either highly critical ("4") or extremely critical ("5") are identified for each occupational grouping in the report for each SDA.

Categories and Rating Scheme: SCANS Skill Survey

Foundation Skills

Basic Skills
Reading
Writing
Arithmetic
Mathematics
Listening
Speaking
Listening

Thinking Skills
Creative thinking
Decision making
Problem solving
Mental visualization
Knowing how to learn
Reasoning

Personal Qualities
Responsibility
Self-Esteem
Sociability
Self-Management
Integrity/Honesty

Workplace Competencies

Information
Acquires & evaluates information
Organizes & maintains information
Interprets & communicates information
Uses computers to process

Technology (Procedures, Tools, Machines)
Selects technology for desired results
Applies technology to task
Maintains & troubleshoots technology

Systems (Social, Organizational, Technological)
Understands systems
Monitors & corrects system performance
Improves & designs systems

Interpersonal
Participates as a member of a team
Teaches others
Serves clients/customers
Exercises leadership
Negotiates to arrive at a decision
Works with cultural diversity

Resources
Manages time
Manages money
Manages material & facility resources
Manages human resources

Scale

1 Not critical	This skill is *not* required for this job.
2 Somewhat critical	This skill is occasionally required or is needed for *minor* duties.
3 Moderately critical	This skill is *often required* or is necessary for *somewhat important* tasks or duties.
4 Highly critical	This skill is *very often* required or is necessary for *highly important* tasks or duties.
5 Extremely critical	This job could not be performed at all without *frequent, competent use* of this skill.

APPENDIX C: FOCUS GROUP ASSESSMENTS

The table below summarizes the results of focus group sessions on targeted occupations in health care, manufacturing, and administration and sales. The table compares descriptions of job duties as they appear in the 1977 *Dictionary of Occupational Titles* of the U.S. Department of Labor with descriptions provided by focus group participants when asked to identify new tasks and responsibilities associated with the occupation.

Also shown are responses to a SCANS skill survey asking focus group participants to rate the criticality of a number of "foundation skills" and "workplace competencies." These are listed in the table for each occupation in rank order from most critical to least critical. Responses are a composite of responses from all four SDAs involved in the project.

Changing Responsibilities and Job Requirements of Targeted Occupational Clusters

Healthcare Occupations

Nursing

Old Tasks/Responsibilities

Aides physician
Examines patients
Takes & records vital signs
Administers medication
Dresses wounds
Observes patient
Notifies physician of condition or reaction to treatment
Maintains equipment
Conducts laboratory tests
Maintains files and other information

New Tasks/Responsibilities

Management
Supervision
Teaching
Leadership
Statistical analysis
Communication
Record keeping
Documentation
Computer operation
Planning & evaluation
Monitoring performance
Customer service
Participate in team
Pharmaceutical services
Cost analysis
Improve efficiency

Nurses Aide

Old Tasks/Responsibilities

Dresses, bathes patients
Serves & collects food trays
Transports patients
Changes linens
Runs errands
Directs visitors
Answers telephone
Takes and/or records:
  temperature
  blood pressure
  pulse
  food & fluid intake/output
Cleans & Sterilizes equipment

New Tasks/Responsibilities

Statistical analysis
Communication
Recordkeeping
Computer operation
Planning & Evaluating performance
Customer Service
Participate in Team
Improve efficiency

Medical Technician

Old Tasks/Responsibilities

Operates diagnostic equipment:
  set up
  inspect for sanitation
  prepares patient
  adjust machine to pre-set standards
  read gauge measurements
  calculate & record output
  take & record patient statistics (temp., etc.)
Edits & forwards final results to physician
Transports patient
Explains procedure to patient

New Tasks/Responsibilities

Customer Service
Work in Team
Manage Multiple Tasks
Computer Operation
Documentation
Statistical Analysis
Teach Others
Communicate with Patients and Medical Personnel

Administration and Sales Occupations

Administrative Assistant

Old Tasks/Responsibilities

Prepares memorandums
Plans conference
Directs preparation of records and correspondence
Directs recording of company stock issues
Acts as custodian of corporate documents
General secretarial

New Tasks/Responsibilities

Information Management/DOS skills
Generate, organize, access information for sales staff
Manage multiple duties and priorities
Manage other office staff within a team
Customer service
Accounting
Financial management
Desktop publishing
Graphics

Customer Service Representative

Old Tasks/Responsibilities
Greets visitors
Provides information on products and services
Answers and routes incoming phone calls
Schedules appointments
Maintains documents
General typing
Transact retail sales

New Tasks/Responsibilities
Gathers information
Responds to Client needs or problems
Participates in meetings
Computer Operation:
  Spreadsheet
  Wordprocessing
  Database
Sells additional services to customer

Installation & Repair Technician

Old Tasks/Responsibilities
Install & repair computer service equipment
Read & decipher technical manuals
Selects proper tools & parts
Discuss assignment w/customer representative
Inspect site for proper installation environment
Positions & connects circuits and accessories
Tests components
Troubleshoots

New Tasks/Responsibilities
Build & Maintain good Customer Relations
Communicate with non-technical audiences
Continuous training in new technologies
Work with greater independence

Manufacturing Occupations

Machinist

Old Tasks/Responsibilities
Studies blueprints, schematics
Designs blueprints or sketches
Determines dimensions, tolerance, sequence & set up
Measures, marks, scribes dimensions
Selects, aligns & secures fixtures & tools
Calculates & sets controls
Detects malfunctions & adjusts
Evaluates product
Operate CNC machine
  install or repair parts

New Tasks/Responsibilities
Take greater part in planning, executing and evaluating quality control measures

Mechanics, Installers, Repairers/Mechanical

Old Tasks/Responsibilities

Inspects, repairs, and maintains functional parts
Installs & repairs Industrial equipment:
  follow blueprints and specifications
  select appropriate tools
Tests equipment
Diagnoses malfunctions
Dissembles and overhauls engines
Grinds & resets valves
Lubricates moving parts
Fabricates special parts

New Tasks/Responsibilities

Take greater part in planning executing and evaluating quality control measures

Mechanics, Installers, Repairers/Electrical

Old Tasks/Responsibilities

Repairs electronic equipment:
  tests faulty equipment
  applies knowledge of electronic units and systems
  replaces defective components
Calibrates testing instruments
Maintains records of repairs, calibrations and tests
Uses computer to store and modify schematics

New Tasks Responsibilities

Takes greater part in planning executing and evaluating quality control measures

Machine Operators/Conventional

Old Tasks/Responsibilities

Machine Operation:
  set up
  select, position, secure fixtures
  select and use measuring equipment
  locate reference points via blueprint & calculations
  adjust controls to specifications
Read & Interpret Blueprints
Inspects
Troubleshoots

New Tasks & Responsibilities

Precision measurement
Participate in Quality Team
Quality Assurance
  charting
  documenting
  analyzing & evaluating
  problem solving

Machine Operators/CNC

Old Tasks & Responsibilities

Operate CNC Machine:
- review set up sheet
- determine set up procedure
- select & attach fixtures
- load control media (disk, tape, etc.)
- calculate & set controls
- enter commands
- monitor computer displays
- adjust controls

New Tasks & Responsibilities

Modify computer program

Develop computer program

Participate in Quality Team
- teaches others

Quality Assurance:
- measuring
- charting
- monitoring
- analyzing & evaluating
- problem solving

Customer Service Representative

Old Tasks/Responsibilities

Verifies & keeps records on incoming and outgoing shipments

Prepares items for shipment

Compares identifying information

Determines method of shipment

Affixes shipping labels

Assembles containers

Posts weight and shipping charges

Maintains inventory

Inspects incoming shipments

Corresponds with shipper to rectify damaged goods

May operate tier-lift truck

New Tasks/Responsibilities

Gathers & disseminates information

Responds to Client needs or problems

Participates in meetings

Computer Operation

FOCUS GROUP PARTICIPANTS

Healthcare Occupations

Dan Barber
Caremark International

Sue Bonales
Kiley Center

Cindy K. Carpenter
Lake Forest Hospital

Elizabeth Coulsen
Chicago Medical School

Judy Datz
Family Care Services of
Metropolitan Chicago

Marilyn Denning
V.A. Medical Center

Tena Fischer
V.A. Medical Center

Regina Gonzalez
Victory Memorial Hospital

Mary Hettich
Winchester House

Irene Pierce
Lake County Health Department

Lynn Rassano
St. Therese Medical Center

Administrative and Sales Occupations

Scott Archer
Wal-Mart

Chuck Bartels
Manpower

Sara Cripe
Commonwealth Edison

Tom Doddington
Comfort Inn

Chris Hartrich
Benefit Trust Life Insurance Co.

Susan Kramer
American National Bank

Donna C. Reinoehl
U.S. Cable of Lake County

Tom Tincher
Chicago Tribune

Manufacturing Occupations

Marshall Claassen
Express Services

Tony Francis
Prototype Equipment

Paula Frey
Motorola Corporation

Kathy Howard
Abbott Laboratories

Bill Krueger
Abbott Laboratories

Bevery Lund
PPG Industries, Inc.

Michael L. McMinn
Tempel Steel Co

Matthew Nordigian
Norstan

Walter Newburn
Zebra Technologies

John Nuebel
Dexter Corporation

Debra Owens
Duroweld Company

Daniel Papreck
APR

Lori Schleibinger
General Loose Leaf Bindery Co

Leonard Shamrock
Baxter Labs

Mike Smith
Hollister

Bill Whiting
Rustoleum Corporation

Gene Woods
Adler-Norco

ESL EMPLOYEE NEEDS ASSESSMENT

NAME; ________________________ DATE: ______________

DEPT: ________________________ POSITION: ______________

COMPANY/ADDRESS: ________________________________

____

TELEPHONE: ______________ INTERVIEWER: ______________

GENERAL

1. Where are you from?

   How long have you been here?

2. What city do you live in?

3. What language do you speak at home?

4. What language do you speak outside of work?

5. Do you use your native language in your community?

   i.e. church, stores, banks, newspapers.

6. Why do you want to learn more English?

7. Have you studied English before this?

   Where?

   How much?

   How did you like it?

Job Related Questions

1. What is your job? Tell me about it.

2. How long have you been doing this job?

3. How do you use English on your job?

   To speak to your supervisor?

   To speak to the other workers?

   To speak to the customers?

4. Do you do any writing on your job?

   What kind?

   How often?

5. Do you do any reading on your job?
   What kind?
   How often?

6. Do you use any math on your job?
   What kind?
   How often?

7. What language problems do you have?
   i.e., Can you understand when people speak to you?
   Do people understand you?
   Do you understand your supervisor's instructions?
   Can you tell your supervisor your work problem?

QUEST6.113

NEEDS ASSESSMENT FOR SUPERVISORS - MATH

NAME: ________________ DATE: ________________

DEPT: ________________ POSITION: ________________

COMPANY/ADDRESS: ________________

____

TELEPHONE: ________________ INTERVIEWER: ________________

1. Which of the jobs require specific math skills?

   What are these specific math skills?

2. Are measuring tools used?

   What are they?

3. What other math skills (other than job specific) are employees expected to have?

4. What types of manuals, forms, etc., should be included in the course content?

    Paycheck?

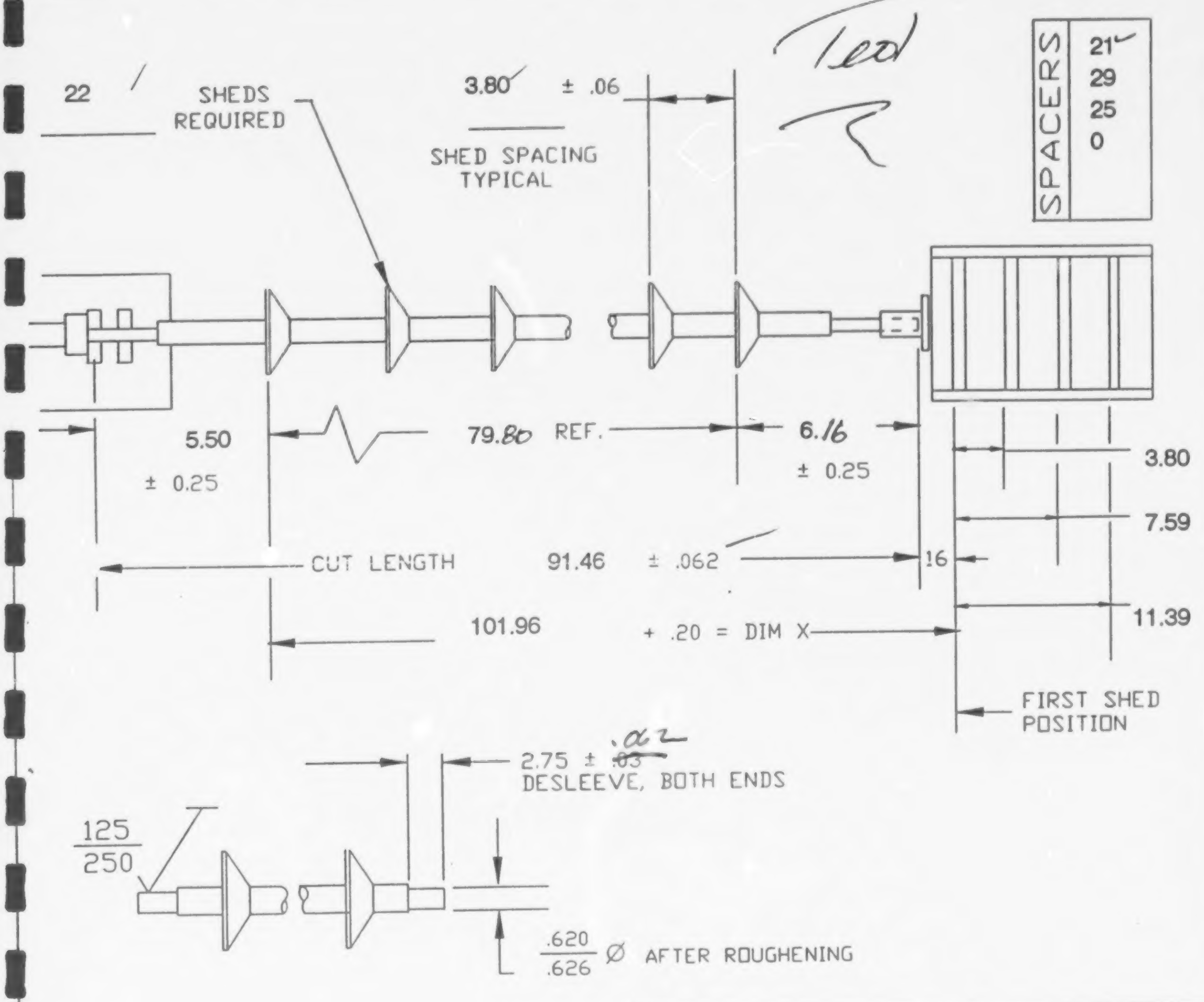
    Time cards?

    Insurance forms?

5. Are you doing SPC and how will it affect the math instruction?

QUEST5.113

ORIG. REL. DATE: 09/22/93	DESCRIPTION: 16MM COMPRESSION				
PARED BY: DAWN	P-NUMBER:	F-NUMBER: F-092267	CATALOG NO.: S148095CA00	REV.: C	APP.
				REV. DATE: 07/15/93	9/22/93



Ted
22 SHEDS REQUIRED
3.80 ± .06
SHED SPACING TYPICAL
SPACERS
21
29
25
0
5.50 ± 0.25
79.80 REF.
6.16 ± 0.25
3.80
7.59
CUT LENGTH 91.46 ± .062
16
11.39
101.96 + .20 = DIM X
FIRST SHED POSITION
2.75 ± ~~.03~~ .02
DESLEEVE, BOTH ENDS
125/250
.620/.626 Ø AFTER ROUGHENING

ORDER VERIFICATION INFORMATION	
CUSTOMER: ENERGY	
NO. OF PCS.: 30	DATE: 10/15
CHECKED BY: Dawn	

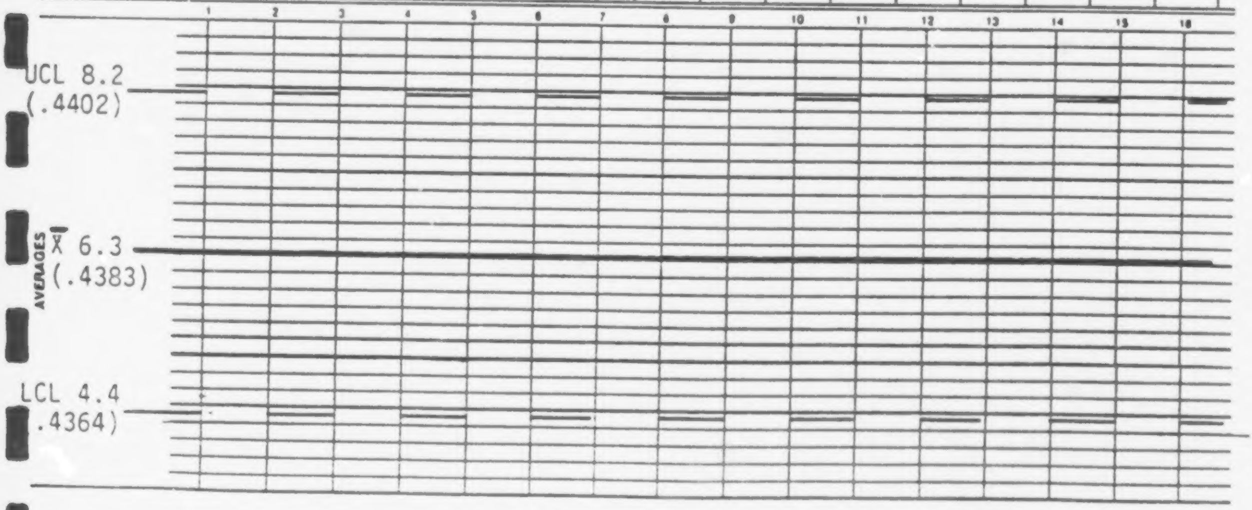
X̄ CHARTS

X̄ CHART DRILL

USING THE FOLLOWING DATA, CALCULATE THE AVERAGES AND COMPLETE THE X̄-BAR CHART.

PLANT	DEPT.	OPERATION	DATE CONTROL LIMITS CALCULATED	ENGINEERING SPECIFICATION .432/.442
MACHINE NO	DATES	CHARACTERISTIC	BASE DIM	SAMPLE SIZE/FREQUENCY

DATE																	
TIME		8	9	10	11	12	13	14	15								
SAMPLE MEASUREMENTS	1	9	5	8	9	7	3	8	9								
	2	7	4	7	6	6	6	7	6								
	3	6	6	6	5	8	7	9	7								
	4	6	6	2	8	2	8	6	6								
	5	4	8	5	6	5	8	3	6								
Σ																	
AVERAGE x̄																	
RANGE, R																	
NOTES																	



AVERAGE AND RANGE CHART

PART NO. P-53714

CHART NO.

PART NAME 7651 SPLICE

OPERATION STAKING - OUTSIDE DIMENSION

SPECIFICATION LIMITS .830 — .845

OPERATOR

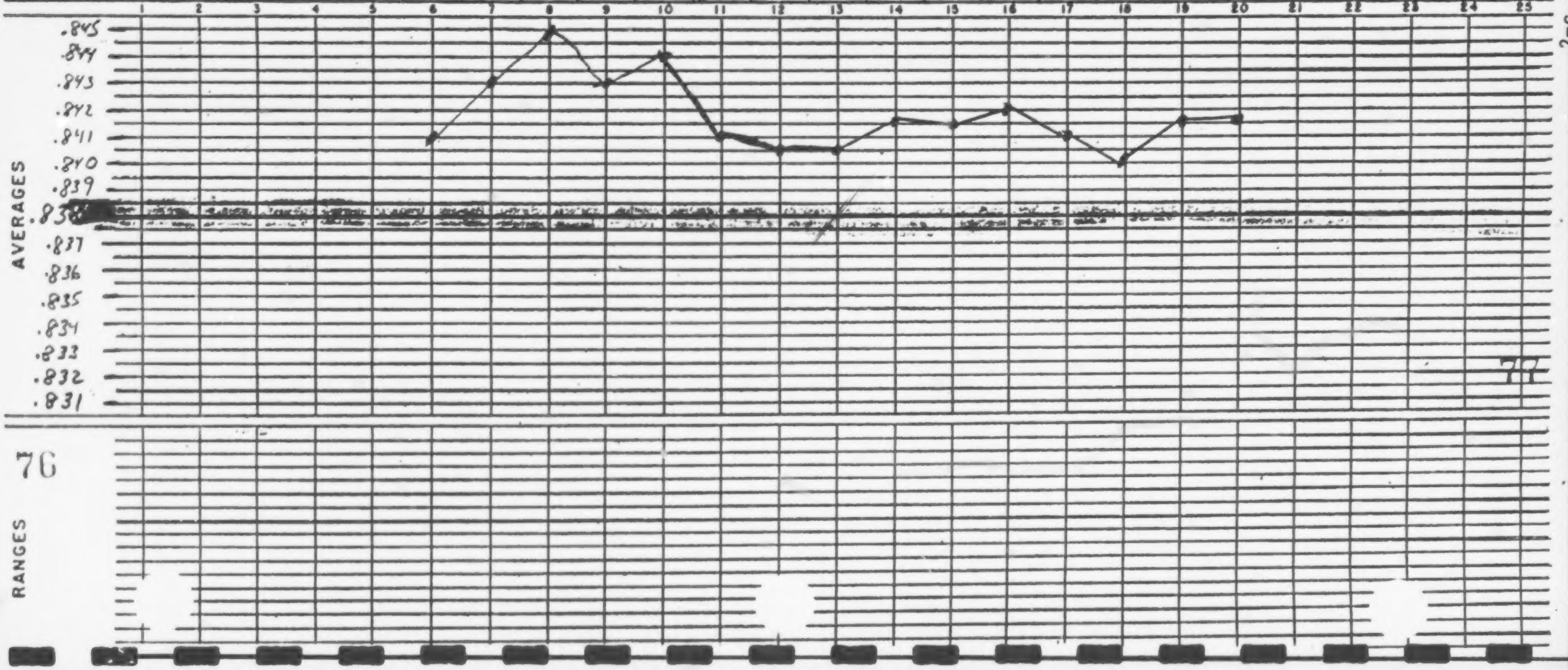
MACHINE

GAGE

UNIT OF MEASURE

ZERO EQUALS

DATE		10-27-93					10/28/93															10/29/93				
TIME		11:00	11:30	12:00	12:30	1:00	800					4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	900	800				
SAMPLE MEASUREMENTS	1	844	.840	.841	.846	.841	.848	.846	.843	.845	.845	.842	.840	.839	.842	.841	.837	.841	.839	.843	.845	.844	.845	.844	.843	
	2	846	.842	.839	.837	.846	.845	.841	.842	.841	.842	.841	.840	.841	.840	.847	.845	.840	.841	.842	.839	.842	.845	.844	.843	
	3	.839	.847	.842	.838	.841	.847	.843	.845	.842	.845	.841	.840	.841	.846	.842	.847	.843	.841	.840	.841	.844	.844	.842	.842	
	4	.838	.840	.841	.843	.845	.847	.840	.848	.842	.845	.841	.841	.842	.843	.841	.843	.842	.842	.844	.843	.846	.845	.843	.841	
	5	Cb					S.K.				S.K.											SK				
SUM							3,387	3,37	3378	337	3,377	3,364	3,361	3.363	3371	3.371	3.372	3366	3363	3369	3368					
AVERAGE, X̄							.847	.843	.845	.843	.844	.841	.840	.840	.842	.842	.843	.841	.840	.842	.842					
RANGE, R							.003	.006	.006	.004	.003	.001	.001	.003	.004	.006	.006	.003	.003	.004	.006					
NOTES												J.J.			C.b											



77

76

Pretest

Within recent years, there has been an increasing emphasis on quality from our customers. Part of this has been a gradual trend by customers to apply the International Standards "9000" series (ISO 9000) of quality requirements to their suppliers. We have long recognized this trend, and have been actively changing how we do business to meet these requirements.

ISO 9000 is a set of three standards that can be used to define the elements of a quality assurance program or business systems and processes. The standards are ISO 9001, 9002, or 9003, and only one of the three standards applies to a company; ISO 9002 is the standard that applies to Reliable Power. We are pursuing it because our customers are asking for it, and because it will give us an advantage over some of our competition. ISO 9002 defines everyone's personal accountability and responsibility for quality. It requires that three levels of procedures be established. A quality manual must be used to define company policy. Standard operating procedures should clarify how departments and people work together. Also, manufacturing and inspection instructions should describe how to do various tasks and jobs.

In order to become an ISO 9000 company, an independent team of auditors review procedures and determine how exactly these procedures are carried out. This usually takes several days, and after approval, the auditors have to come back every year.

Everyone will be affected by the effort to become a ISO 9000 company and everyone has a vital role in helping to attain this goal.

The topic or main focus of this selection is: ______________________________

____

The main idea of this selection is: ______________________________________

____

Two reasons for pursuing the implementation of this system are: ______________

____

____

Another word for vital in the last sentence is: ____________________________

The three levels of procedure that ISO 9,000 demands be established to document quality are:

1. ____

2. ____

3. ____

The selection implies that if ISO 9002 is not implemented the company would probably:

____

____

Post-test for Converting Personal Recipes

Convert the following recipe to feed 50 people.

PIZZA

1 Pizza Dough recipe
cooking oil
1 8-oz. can tomato sauce
1 6-oz. can tomato paste
1 large clove garlic, crushed
2 tsp. sugar
1 tsp. oregano
¾ tsp. basil
½ tsp. crushed red pepper

¼ lb. sweet Italian sausage (skin removed) or
pork sausage meat, browned and drained.
⅛ lb. pepperoni, sliced thin
¼ c. mushrooms, thinly sliced
¼ c. chopped onion
½ c. chopped green pepper
½ to 1 can (about 2 oz.) anchovy fillets,
drained.
½ lb. mozzarella cheese, shredded
¼ c. grated Parmesan cheese

Prepare dough as directed. Then gently stretch or roll out dough to fit greased 16-inch pizza pan (or divide dough in half and form two 12-inch circles; place on greased cookie sheets). Crimp edges to form rim. Brush dough with oil. Bake (without toppings) on lowest oven rack in preheated 450° oven 3 to 4 minutes or until crust bottom is slightly golden. Meanwhile, mix tomato sauce and paste, garlic, sugar, oregano, basil, and red pepper. Spread evenly over crust. Top with sausage, pepperoni, mushrooms, onion, green pepper, and anchovies. Bake 15 minutes, then sprinkle with mozzarella and Parmesan. Bake 8 to 10 minutes or until cheese is melted with golden crust. Makes 4 servings.

____________Pizza Dough

____________cans tomato sauce

____________cans tomato paste

____________garlic cloves

____________tsp. sugar

____________tsp. oregano

____________tsp. basil

____________tsp. red pepper

____________telb. sausage

____________lb. pepperoni

____________c. mushrooms

____________c. onion

____________c. green pepper

____________cans anchovies

____________lbs. mozzarella cheese

____________c. Parmesan cheese

INSTRUCTIONAL TECHNIQUES AND STRATEGIES

As a new concept is taught, teachers develop background knowledge to sort through prior experiences and form a solid knowledge base. The schema can be established when teachers are sensitive to each individual's life experience. If a lack of understanding exists, it becomes imperative for the learners to experience sound learning situations, i.e. the techniques and strategies.

The techniques and strategies are relevant to the teacher and the learners. They provide teachers with the needed opportunities to model and develop cognitive awareness of the learning process, and also provide students with adaptable procedures to enhance their understanding of their own learning. As students develop an awareness of how they learn and understand the ways in which they can acquire new knowledge, they become self-directed learners. Metacognition becomes the link between learners and their capabilities to learn or process new knowledge. Metacognitive awareness is learners understanding of what needs to be done to process new information. This curriculum provides numerous instructional techniques and strategies. The instructors continually "tap" into their students; the students, as resources, provide further understanding of how they learn best. As a result, an optimal level of instruction takes place.

The workplace provides a natural setting for co-workers to share learning experiences. Since the classes are multilevel, the workers are able to connect their job and learning experiences to actual departments at their companies. These connections provide an awareness of operations occurring outside of one's department. As a result, collaborative learning experiences develop naturally. Co-workers are more willing to discuss and explain their roles within their company.

The following instructional techniques and strategies are implemented in this curriculum. The Bibliography contains the references used in this section.

ANTICIPATION GUIDES (Readence, Bean, and Baldwin)

Anticipation guides prepare students for reading by asking them to react to a series of statements (prepared in advance by the teacher) which are related to the material they are about to read. In reacting to these statements, students anticipate or predict what the content will be. This activity is designed to help students focus on key points, to connect what they already know to information in the text, and to integrate discussion with reading.

(As referenced in *Reading Strategies and Practices.)*

BRAINSTORMING

Brainstorming is a strategy which activates background and gets students thinking before they read or write. Brainstorming also allows instructors to pinpoint areas of misinformation and correct misconceptions. Through brainstorming, readers and writers can generate ideas without pressure of producing. The ideas generated through brainstorming can then be organized into a piece of writing or a plan for action. During a brainstorming session, students should be encouraged to share their ideas with each other without criticism. Welcome the outlandish. New ideas are born when there is freedom to explore. Allow sufficient time for students to generate a number of ideas. Brainstorming can be done individually, in small groups, or with the whole class.

CLUSTERING

Clustering is similar to the activity of mapping. Like mapping, clustering adds a visual dimension to the process of organizing ideas. Clustering helps students to separate their ideas into categories and improves organization in their thoughts, speech, and writing.

To begin clustering, write a topic on the chalkboard or on a transparency. Draw a circle around the topic. Draw lines out from the circle, and write the first key idea that the students suggest at the end of one line . For example, if "spring" brings to mind gardening then write "gardening" at the end of one line. Next, write any words that the key word "gardening" brings to mind in a cluster around the key word. Have the class brainstorm ideas. These might be flowers, vegetables, weather conditions, etc. When students think of a new key word or topic, draw a new line from the center circle and write the new key word at the end of the line. Continue this process of free association for 5 to 10 minutes. At the end of this time, have students evaluate the ideas and decide which one they would like to discuss or write about.

COMPUTER ASSISTED INSTRUCTION

The computer can be a multi-faceted tool in the process of workplace instruction. First, the use of software programs in specific areas of instruction can provide students with opportunities to do quick, efficient, interactive learning. Especially in multilevel classrooms, students can use software programs individually or in small groups to learn new things or to back up their classroom instruction with another form of drill or practice. The immediate validation of correct or incorrect answers in software drills is a unique help to some students. Software instruction and practice in graphing is especially helpful to workplace students as they see points and lines and bars being placed on a grid.

Secondly, computer assisted instruction is a technique that has many secondary benefits to the workplace student. Computers are now a part of nearly every department in a company. Since the computer can be used as a word processor, as a calculator, or as a means to display or organize data, a basic familiarity with the computer gives students connections between their instruction and other areas of their lives.

COOPERATIVE LEARNING

Cooperative learning allows small groups of people to reach a common goal set by the instructor. The teacher divides the class into groups of four. Everyone is given a particular job to do and must do it to achieve the goal. Such jobs can be secretary, coach, runner, taskmaster, etc. This method teaches teamwork and respect for other ideas. Students learn to listen to each other and to clarify their ideas. They are encouraged to help each other and share their ides. They develop self-confidence, trust, and leadership skills. Cooperative learning activities help the students to retain what they have learned without memorizing. They learn to think about different ways of expressing themselves. The students have more interaction and greater opportunity to speak than in a conventional class. The teacher facilitates the process by monitoring each group, giving feedback, and guiding the group with as little interference as possible.

COOPERATIVE LEARNING ACTIVITIES:

1. Color-coded Co-op Cards: Students memorize facts using a flashcard game which is structured so that there is a maximum probability of success at each step. One moves from short-term to long-term memory, scoring on improvement. Pretest what you wish to teach, for example, tool vocabulary. Students make their own flashcards of the words they missed with cues on the opposite side of the words. Students then work in pairs with one being the tutor and the other being the tutee. The tutee gives his cards to the tutor who holds up the cue and then turns the card around saying the word. Then the tutor turns the card around with the cue towards the tutee and the tutee gives the word. If the answer is right the tutor praises his student and gives him the card. If the answer is incorrect the tutor may give hints and the card is placed on the bottom of the pile. Once the tutee wins all of his cards, the roles switch. During the second round, only the cue is shown and not the word.

2. Corners: Each student moves to a corner of the room representing a teacher determined alternative. Students discuss within their corners and then listen to and paraphrase ideas from other corners.

3. Roundrobin and Roundtable: Roundrobin is an oral exercise in which students take turns contributing answers or reading something they have written. Each participant gets a turn so one person does not dominate the exercise. Roundtable is the written version. Students may be asked a question with several possible answers. Students then make a list on one piece of paper, each writing one answer and then passing the paper to the next person.

4. Think/Pair/Share: Students listen while the instructor poses a question. Then, they are given a chance to think of a response. Students pair with one another to share their thoughts. Then the pairs share their ideas with the original group.

DIRECTED READING-THINKING ACTIVITY (Stauffer)

Directed reading-thinking activity (DRTA) is used to help students focus on a written passage. Students are taught to react to the title and any visuals in order to make predictions about what they will read. As they begin to read the passage, they may change their predictions as more material is read. Specific instructions are given for difficult vocabulary such as reading to the end of the sentence, using clues, sounding out the word, or just asking. During and after reading, the students are asked to verify their predictions by citing actual text. DRTA connects the reader to the writer of the passage.

(As referenced in *Reading Strategies and Practices.*)

FREEWRITING

Workplace students often approach writing with a great deal of discomfort and anxiety. One way to reduce their writing anxiety is to give them uncorrected writing practice called freewriting. Initial freewriting should be kept to no longer than ten minutes. Students may write about anything they wish, or they may be assigned a topic that is familiar to everyone such as foods they like or dislike, the current weather, or something happening that day in the classroom or in the workplace. Students write without stopping. If they cannot think of anything to put on the paper initially, the teacher may suggest they write "I can't think of what to write" over and over until their own thoughts are formulated. The goal of freewriting is to reduce the fear of putting words on paper. Freewriting may then be shared with the instructor, with a partner, in small groups, or with the entire class. The important thing is to focus only on the **content** of the writing, and not at this point on the **mechanics** of writing.

GAMES

There are numerous purposes for using games in the classroom. Games, either teacher-made or commercially produced, can reinforce skills being taught and can provide excellent drill and review on past classwork. They can also help the teacher evaluate student progress in a non-threatening way. Games can develop communication skills such as listening and speaking and can provide practice in following instructions. Games can be especially effective in math classes in helping students to discern patterns and use a combination of skills they have learned. Students can often practice team building through games and enjoy transferring skills from games in class to other areas of their lives. In ESL classes effective games to use are Bingo, Go Fish, Concentration, Jeopardy, Simon Says, Lotto, and Telephone. Math teachers could use Bingo, Dominoes, and Rummi Kub. Math students can also benefit from teacher-made card games such as a trading card game in which each player receives several cards with decimal and/or fraction values on them. Students trade cards to be the first to reach a combined specified value. Another math game is a place value card game in which students combine cards to achieve the highest or lowest valued decimal.

GRAPHIC ORGANIZERS (Barron)

The Graphic Organizer is designed to do three things. It should provide a systematic way to present the technical vocabulary of a chapter in a text so that the students are able to learn it with little difficulty. It should give the students a structure that shows the relationship of concepts and content vocabulary. It should also clarify the goals of the teacher.

The instructor presents a picture or diagram of the vocabulary in a chapter. Then there is a discussion with the students on how these words relate to one another. The new information should also be linked with previously acquired information. This way the students do not receive the impression that each new cell of information is isolated or unconnected to previously learned information from the content text. At this point, the students should not be expected to know all the terms and the relationships between them. They are using the words and working out the relationships among them so that some type of structure is in place to make the more complicated learning easier.

(As referenced in *Reading Strategies and Practices.*)

JOURNAL WRITING

A journal is a record of the students' thoughts and experiences. Through the use of a journal, students and teachers can communicate with each other regularly in a written conversation. Students write as much as they choose, and the teacher then writes comments, reactions, or questions for each entry. Teachers' responses should contain no revisions or evaluations but should act as an encouragement to further expression and learning. Student journal entries can also include students' reactions to learning experiences, thus helping the students and teachers see both positive and negative aspects of the educational program.

K-W-L (D. Ogle)

K-W-L is a study strategy in which students think about what they already know about a topic and predict information they expect to learn. K-W-L helps students focus on important facts and details related to content topics. K-W-L can be used by instructors to gauge how much prior knowledge students have of a topic.

Each student has a sheet of paper with three columns. The first is labeled **K** (What I Already Know), the second, **W** (What I Want/Need to Know), and the third, **L** (What I Have Learned). Students brainstorm together everything they know about a certain topic and then list these responses in the **K** column by major topics and supporting topics. In the **W** column, students formulate hypotheses about what they will be reading or studying and formulate questions as to what they want to know. After the instructional time, students fill in the **L** column with new information learned and correct any misconceptions. This technique is most often used in reading instruction, but it can also be utilized when presenting new topics in math or ESL classes.

LANGUAGE EXPERIENCE APPROACH

The Language Experience Approach (LEA) uses the students' own spoken English as their first text for reading. Because listening and speaking skills should develop before reading and writing skills, this approach emphasizes oral conversation and development of a story before it is read by the students. The students' exact words, despite problems of style or grammar, become their first reading matter. In this way, they can make a direct connection between meaning and the written word. They will find the subject of the stories relevant and develop pride in producing their own work.

The first step in the LEA process is to engage the students in conversation about an activity, experience, or picture. The idea is to get the students talking so that they can develop a story or description using the full extent of the English they know. This is not a time for the instructor to teach a new lesson. The students' first stories may only be three or four sentences. That's fine. Ask them the basic WHAT, WHERE, WHEN, and WHO questions if they need prompting. Write down their words exactly.

The instructor reads the story aloud and the students listen to what their own words sound like while "reading" silently. If the students want to change or add anything, record that carefully.

You can use this test for several reading exercises such as underlining key words, circling all words that begin with a particular letter, cutting the story into parts and re-assembling it, or asking each other questions about the story.

Soon the students will have the story memorized. They will be able to successfully read it aloud on their own. Copying certain words or the whole story will be a meaningful exercise. Eventually, as the students' language skills improve, they might want to return to their earlier stories and correct them.

LEA builds on what the students know giving them a meaningful language experience. The students are given ownership of their writing with the instructor as a facilitator. It demonstrates the interrelationship between speaking, listening, reading, writing, and thinking. It teaches summarizing and expands easily into many different content areas.

(Taken from *Tutoring ESL: Handbook for Volunteers.*)

MAPPING

Concept mapping (also called semantic mapping) helps students recognize different types of organizational patterns typically used in content area materials. Mapping is a graphic representation of the relationships between major ideas and supporting details. This technique encourages students to use their background knowledge along with new information presented to form a visual picture of how individual pieces of information fit together.

Mapping can be used as an introduction to a new topic, as a vocabulary builder, or as a note-taking and study aid. To begin mapping, write the main topic in the center of the blackboard or on an overhead transparency. Circle the topic. Have the students identify supporting secondary ideas. Write these around the main topic with lines connecting the secondary ideas to the main topic. Identify supporting details for each secondary idea. Then arrange supporting details under the appropriate secondary idea in a logical fashion.

Instructors need to model the process of mapping when it is first introduced to students. The instructor should demonstrate, allowing students to do as much of the process as possible. As the students become more familiar with mapping, they will be able to do all the steps individually or in small groups.

MATH MANIPULATIVES

The instructor provides hands-on materials that can help the students develop a concrete basis for mathematical relationships. These materials can be anything that can be felt, counted, grouped, or measured to liken the mathematical classwork to the students' job tasks and personal lives. For workplace education, the best manipulatives are things the students use on their jobs, perhaps the actual products that a company makes. Measuring devices from the workplace such as rulers, calipers, and micrometers can be utilized. Fraction bars, blocks, and Cuisenaire rods can help the students see and feel decimals, fractions, and ratios. Workplace students can also benefit from either making or examining geometric models. Packages of colored candies such as M&M's are a helpful tool for teaching grouping, fractions, and percent. Many teacher-made devices such as clock faces and card games can assist students in connecting abstract mathematical ideas to things they face each day.

PROBLEM POSING (Friere, Auerbach, and Wallerstein)

Problem posing allows the students to bring their experiences and problems from work, home, and the community into the classroom. It allows them to develop viable alternative solutions to issues that concern them by using critical thinking skills involving inductive questioning. This questioning strategy consists of a five-step process based on a hierarchy from simple to complex. The teacher selects an issue after listening to and observing the students. The teacher starts with some type of code such as a picture, story, object, or dialogue to focus on the issue. By starting with the concrete questions of who, what, and where, the teacher leads the class through a series of steps to describe, define, and personalize the problem. By relating the problem to themselves, they can arrive at the cause of the problem. Next, they are analytically guided through the how and who of the issue so they can become aware of how it is an issue for others. Finally, they can create solutions for the problem and discover the consequences for each solution. The teacher is a facilitator for this method and should do a minimum of speaking. Guiding and clarification are his/her main concerns.

PROBLEM SOLVING

Instruction in the process of problem solving provides students with the opportunity to investigate possible solutions to authentic problems and to evaluate those solutions according to the students' value systems and consequences. In order to successfully list and evaluate options, students learn first to define the problem and arrive at a problem statement which identifies the obstacle that prevents them from achieving that outcome. Accurately defining the problem allows students to recognize and avoid common reactions to problems such as blame, denial, and avoidance. Next, students are trained to find the cause of the problem rather than to look at the symptoms. This requires careful investigation through asking open-ended questions. Brainstorming solutions to a problem, the next step, requires that students creatively list all possible solutions without judging or evaluating them. This is best accomplished in small groups. Finally, students learn to evaluate alternatives according to their belief systems and the consequences of choosing those alternatives. Training in the process of problem solving provides students with a strategy to take control of their reactions to authentic problems in their lives and to think through those problems before choosing viable solutions.

REQUEST (Manzo)

The ReQuest procedure encourages students to question, set purposes for reading, and become more actively involved in the reading process. This procedure can be used individually or in small groups. The teacher selects an appropriate reading passage and develops background knowledge for the selection by predicting based on the title, presenting key vocabulary and concepts, or other prereading techniques. After a joint silent reading of the first sentence, both students and the teacher close their books and the students ask the teacher questions. The teacher explains that it is unacceptable to answer "I don't know", and models extended responses to the questions. The teacher also reinforces appropriate questioning and clarified questions if necessary. After reading another sentence silently, the roles are exchanged and the teacher asks questions about the passage. The students and teacher continue reading and exchanging roles, asking questions until it is possible to predict the conclusion of the passage. They can then continue reading the passage silently. This strategy allows the teacher to model effective questioning and reading behaviors and to encourage students to extend thinking and active reading.

STUDENT GENERATED DIALOGUES AND ROLE PLAYS

Students enjoy creating and performing their own dialogues for situations that are relevant to the workplace or real life. This is a natural follow-up to a problem posing session because it gives the students practice in sequencing their thoughts and expressing them orally and in writing. They use relevant language and practice several skills they have learned. They can perform the dialogues for the class so the teacher can listen and diagnose errors. The dialogues can start as small structured exercises created by the teacher and then move on to student-created dialogues. From here they can go on to impromptu role play for similar situations. This process will lead to application in the real world where they have to "think on their feet". It provides them with strategies to deal with the outside world and the workplace successfully.

THINK-ALOUD (Davey)

Think-Aloud is intended to help students examine and develop reading behaviors and strategies. It is based on the premise that if students can observe a teacher modeling his/her own thoughts about a text, they will realize how and when to do the same. The teacher begins by selecting a passage that contains some contradictions, difficulties, or unknown words. The instructor reads the passage aloud with students following along silently and offers a number of Think-Alouds in the process. They may make predictions about the passage (*I think we will find out what caused this accident*), describe visual images (*I have a picture in my mind of this older character*), show how prior knowledge relates (*This was similar to the time when I was late to work*), verbalize confusing points (I am not sure how this fits in), or demonstrate fix-up strategies (*I need to re-read this*). After the modeling, the students work together with partners, taking turns reading and thinking aloud with short passages. Then the students practice independently with the use of checklists to monitor their progress. Finally, there is practice with class materials and content reading.

TOTAL PHYSICAL RESPONSE (Asher)

Total Physical Response (TPR) is a simple ESL technique that addresses the acquisition of oral and aural skills. It incorporates listening activities driven by the imperative verb form, i.e. Stand Up! Sit Down! Students respond to the commands without speaking. This provides a non-threatening learning environment to the students since they are not required to give individual verbal answers. It is a quick way for the teacher to check for comprehension. The commands can start off simply and gradually progress to more complex verb patterns. The method can even be used with verbs that express emotions. Eventually, the students advance to giving the commands to others in the class. Studies have shown that vocabulary learned by this method is retained at a higher rate than by conventionally used methods. Also, the transfer to oral reading and writing skills seems to be quicker than by conventional methods.

OBJECTIVE 3

To develop a model workplace program consisting of assessment techniques, instructional methods and materials, evaluation measures and support services that can be applied across industries and yet can be adapted to meet the needs of specific companies.

Project activities implemented to accomplish the objective include:

1. Exploring the feasibility of piloting a workplace-based assessment instrument that has more relevance and validity for workplace use than current adult basic skills tests offered.

   All instructors provided customized workplace specific assessment on a formative and summative basis. This form of assessment proved to be extremely beneficial and successful. (see 3-a)

   Although Workplace Foundation Skills TABE test has just been published only a Level D (difficult) is available for use and so the basic skill range of E, M, and A is not complete for reliability and validity.

   More workplace tests are currently being presented and this type of standardized testing will be explored, piloted, and used with the business partners as they implement their continuation plans.

2. Training sufficient staff to perform needs assessments and literacy audits on an ongoing basis, and to develop appropriate guidelines questionnaires and other materials that will assist in conducting literacy audits smoothly and efficiently, ensuring consistency of data across companies.

   The training of the staff for needs assessment is an ongoing activity as the assessment process changes, is continually updated, and as new methods become available. The adult education department, workplace and literacy conferences, outside consultants, experienced instructors in conducting assessment, and curriculum team members have all professionally cooperated and been sources for the training of the staff and business partners. Questionnaires and surveys have also played a vital role in the training and actual process of conducting needs assessments. Specific subject area questionnaires and survey have been adapted for use with all business partners to obtain necessary information and to share with each other. (see 3-b)

3. Developing workplace-based curricula that can be targeted to specific industries, such as service or manufacturing industries, and yet can provide guidelines for adapting curricula to the needs of specific companies and their requirements.

   Three specific curricula were developed during the course of the grant project. The first curriculum was an ESL one created by an instructor for MacLean Molded. The second was a GED curriculum developed by an experienced adult educator and has consequently been used for all GED workplace courses. (see 3-c) The third curriculum was the major project developed over a six month period by nine curriculum team members. (curriculum in ERIC Digest)

4. Clarifying and standardizing evaluation procedures for workplace literacy programs, basing these procedures on the analysis of quantitative and qualitative data. (see 3-d)

Evaluation has been created, clarified, and standardized by numerous methods. The following list will briefly describe some of the instruments.

1. Measure employee attitudes toward learning.

   Student survey forms have been developed and are in use.

2. Measure employee feelings of success.

   Student survey forms have been developed and are in use.

3. Measure improved employee accuracy and productivity.

   Supervisor survey forms have been developed and are in use.

4. Lower accident rates.

   Not yet addressed by all companies; Reliable Power has provided information

5. Reduce production downtime.

   Not yet addressed by all companies; Reliable Power has provided information

6. Reduce employee turnover and waste.

   Not yet addressed by all companies; Reliable Power has provided information

7. Criterion - referenced evaluation from curricula.

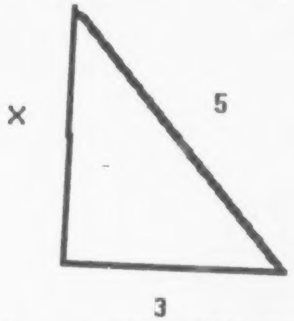
   The curriculum development project addressed this idea.

Pre + Post Test

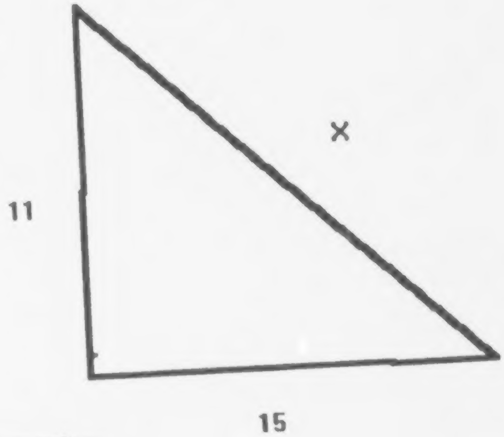
ASSESSMENT
IDENTIFYING AND APPLYING GEOMETRIC PROPERTIES

Use the Pythagorean theorem to find X. $a^2 + b^2 = c^2$

1.



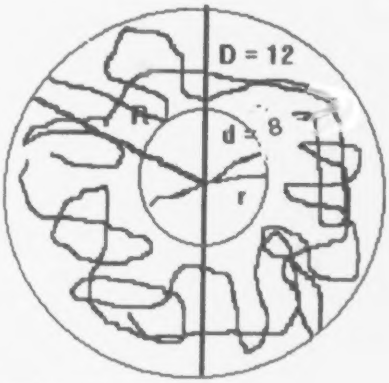
2.



Find the area of the outside circular ring.

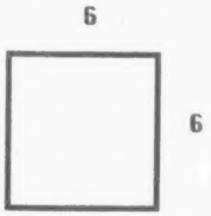
$$A = \pi(R^2 - r^2) = 3.1416(R^2 - r^2)$$
$$= 3.1416(R + r)(R - r)$$

3.

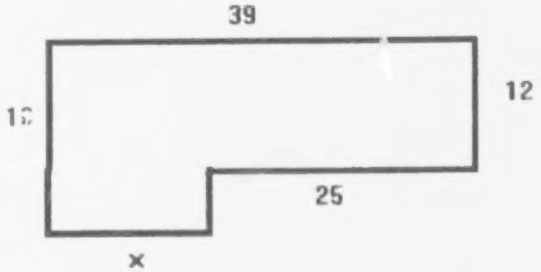


Find the area and perimeter of each of the following.

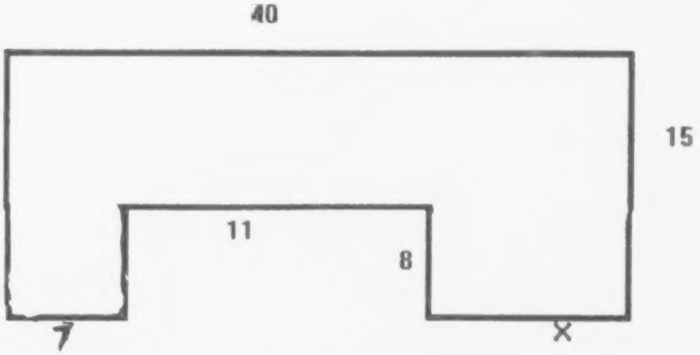
4.



5.



6.



Pre + Post Test

ALGEBRAIC ASSESSMENT

Evaluate

1. $A = \frac{1}{2} b h$ where $b = 5$ and $h = 6$

2. $V = \pi r^2 h$ where $\pi = 22/7$ and $r = 2$ and $h = 7$

Solve

3. $X - 5 = 3$

4. $4X + 5 = 17$

5. $17X - 7X = X + 18$

6. $(4X + 6) - 2X = (X - 6) + 24$

7. A = area, l = length of arc, α = angle, in degrees

$$l = \frac{r \times \alpha \times 3.1416}{180}$$

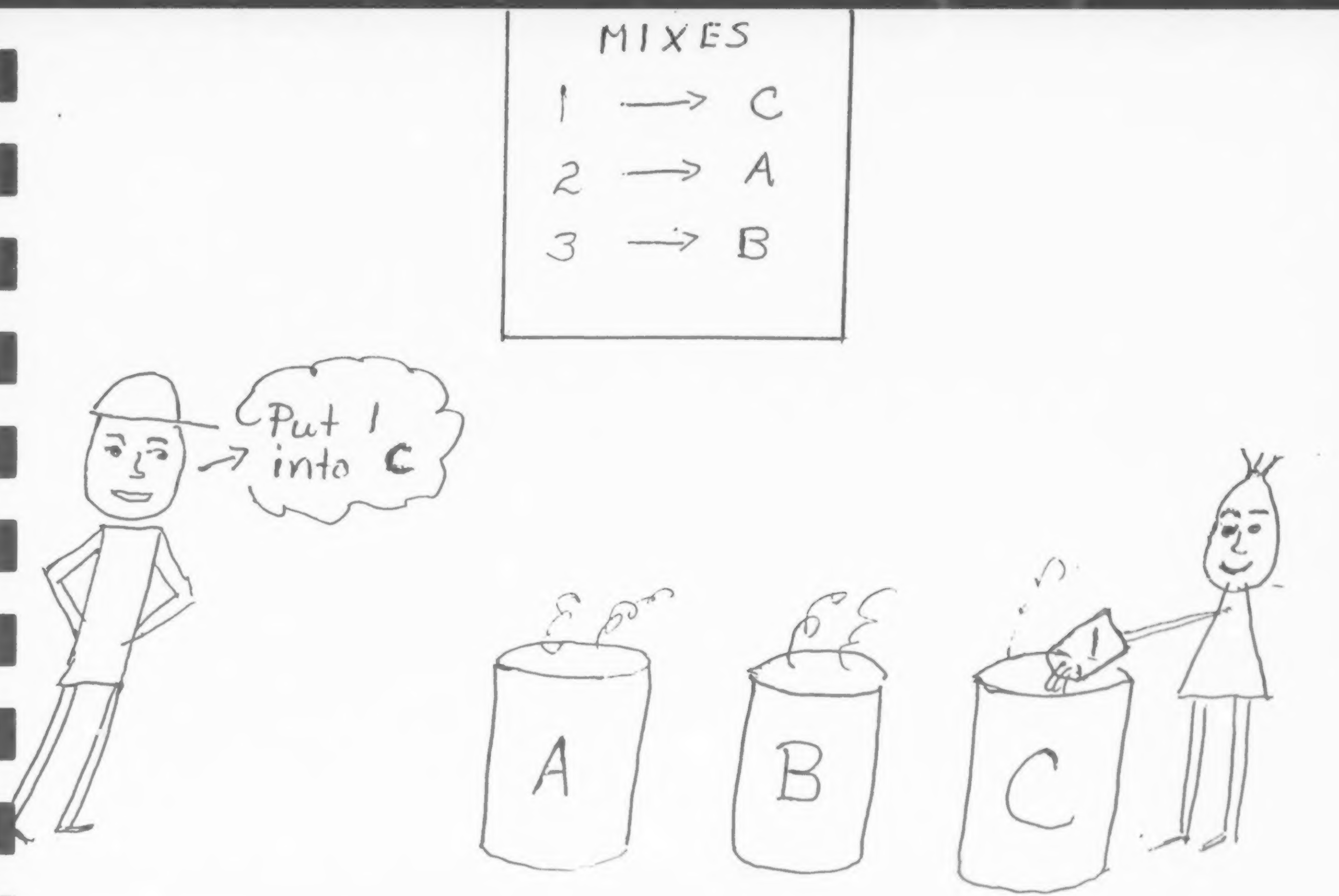
$A = \frac{1}{2} r l$ Where r = 60 inches and α = the angle of a sector of the circle = 60 degrees

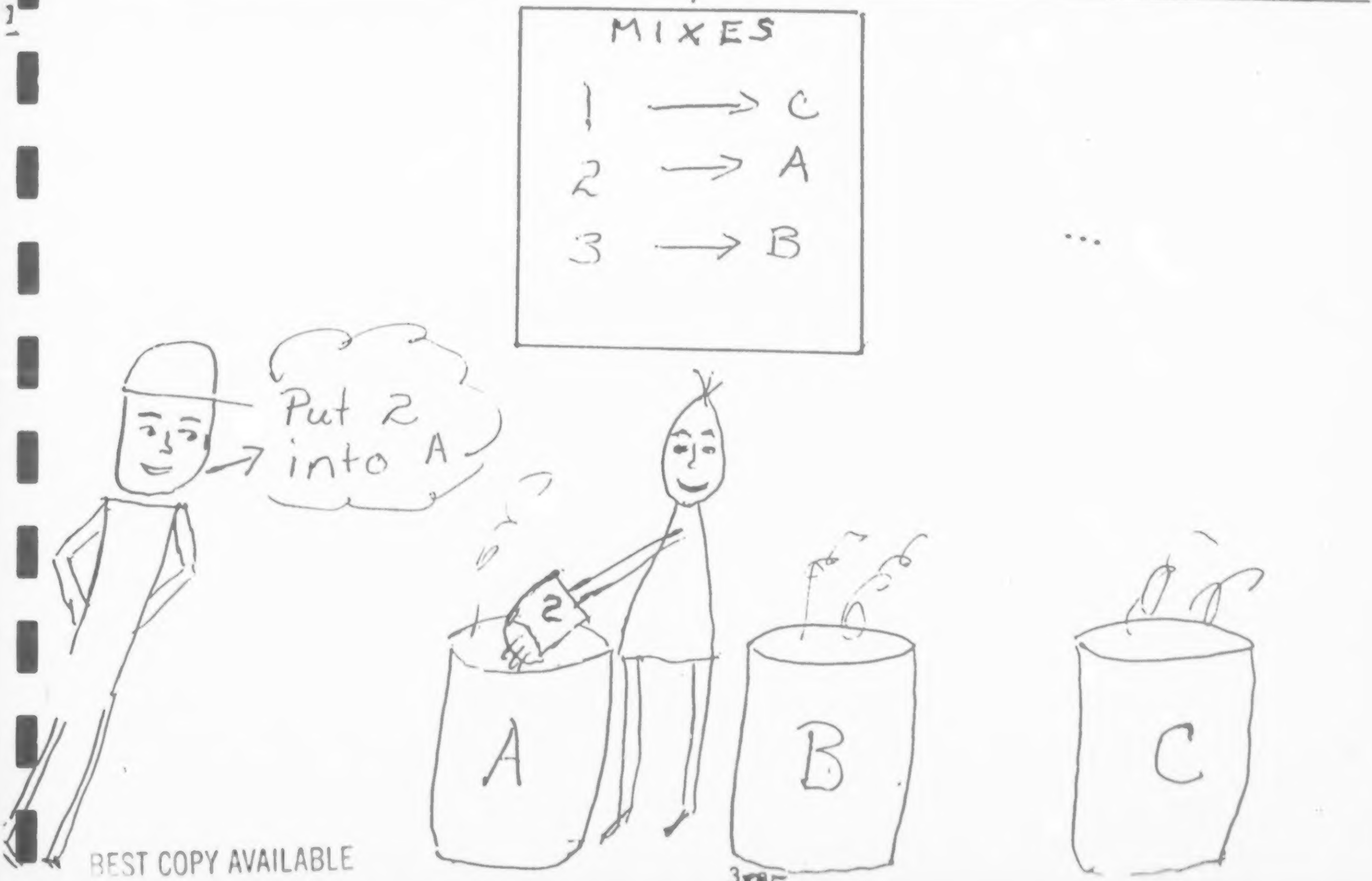
FIND THE AREA OF THE SECTOR AND THE LENGTH OF THE ARC.

MLP Post Test Competency III and VIII

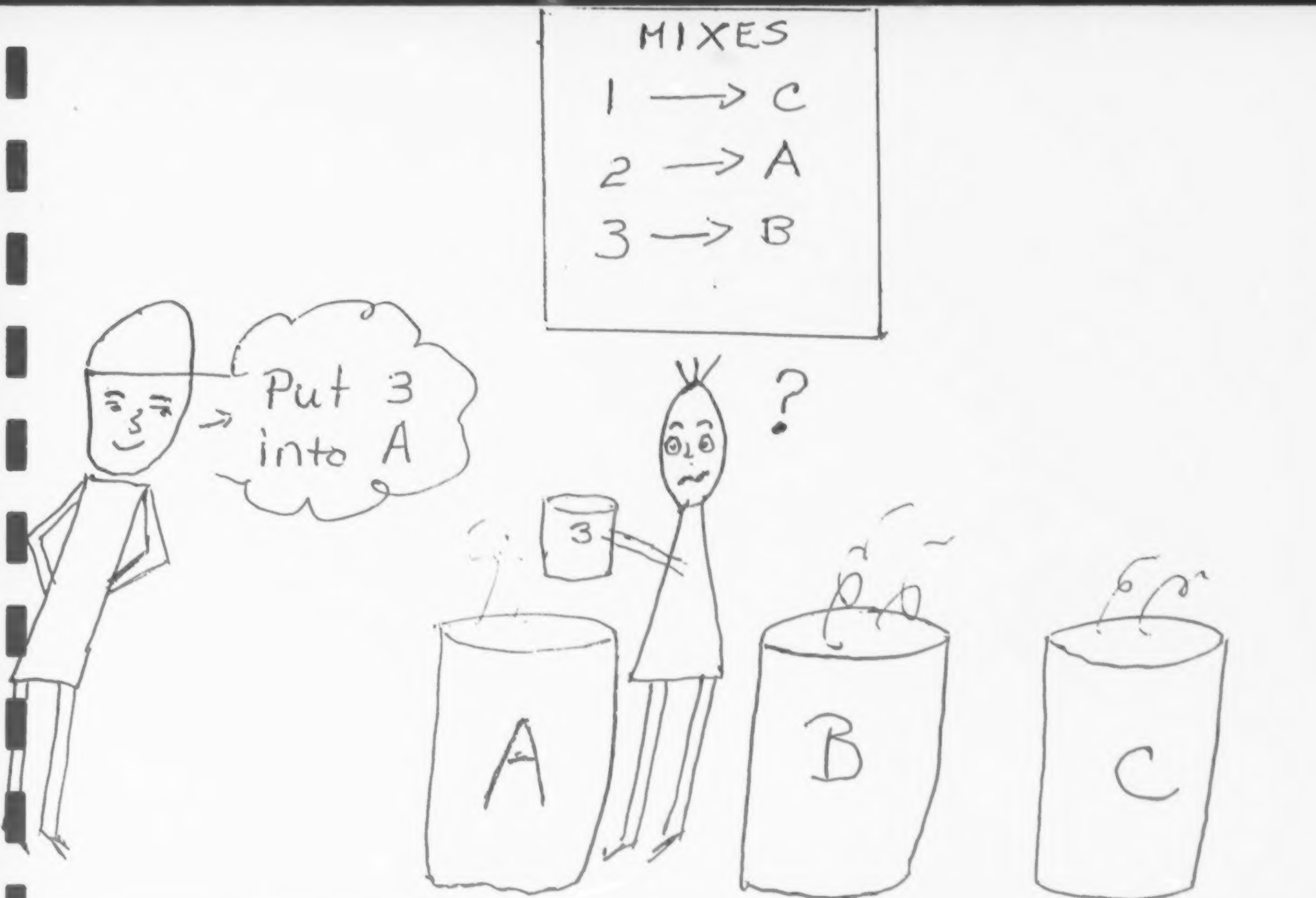
1. What is the supervisor saying in picture 1.
2. What does the employee do in picture 1?
3. What does the supervisor say in picture 2?
4. What does the employee do in picture 2?
5. What is wrong with what the supervisor says in picture 3?
6. What does the employee think about that?
7. What should the employee do/say in picture 3?
8. What does the employee do in picture 4?
9. What happens in picture 4?
10. Has this ever happened to you?

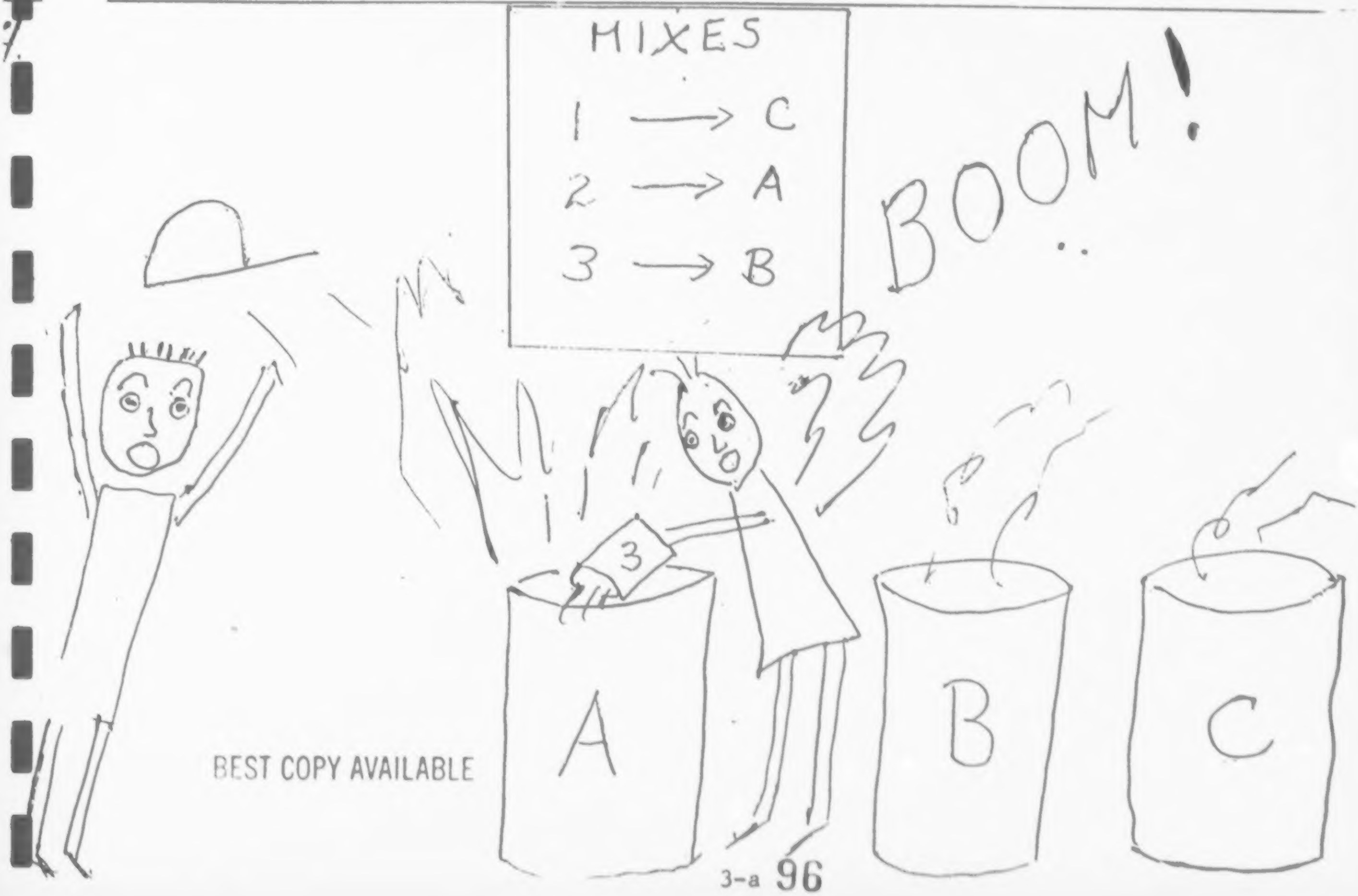
Total: 10 points, 1 point each question


MIXES
1 → C
2 → A
3 → B
Put 1 into C
1
A
B
C


MIXES
1 → C
2 → A
3 → B
Put 2 into A
2
A
B
C

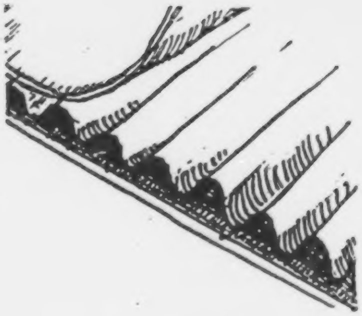
BEST COPY AVAILABLE


MIXES
1 → C
2 → A
3 → B
Put 3 into A
?
3
A
B
C


MIXES
1 → C
2 → A
3 → B
BOOM!
3
A
B
C

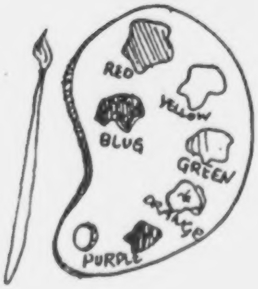
BEST COPY AVAILABLE

8-2



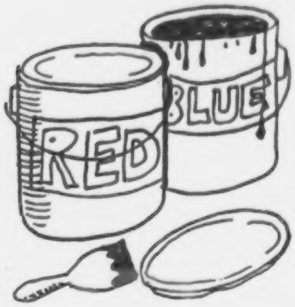
glue joint flute

____


RED
YELLOW
BLUG
GREEN
ORANGE
PURPLE

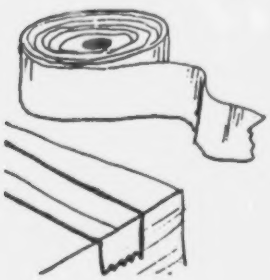
appearance color tape

____



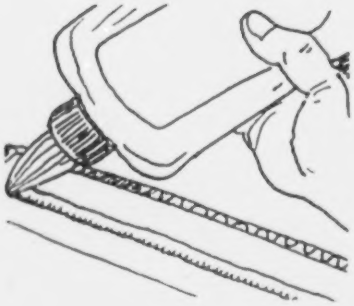
ink die-cutting blank

____



size sign tape

____



glue flute due date

____

ob Duties

8/u

WHO ....?

1. ____________ operates the baler.

2. ____________ and ____________ operate the slitter machine.

3. ____________ counts and bands the blanks.

4. ____________ and ____________ run the label machine.

5. ____________ picks up the dies and puts the dies away.

6. ____________ stacks and bands the blanks.

7. ____________ drives the forklift and puts the skids onto the conveyors.

8. ____________ feeds the blanks into the gluer.

9. ____________, ____________, and ____________ feed paper into the Comet machine.

Needs Assessment for site visit at MacLean-Fogg, Inc., January 19 & 20y , 1994

Interviewers - Math Team and Consultant

Contacts:

1. Director of Educational Development

   An overview of the company was given, including background on other educational programs offered there. The company is committed to a long term project. "Progress, not perfection," is what should be emphasized. We discussed the skills wanted in the class and how this class would interface with present training programs at the company. There was the feeling that class participants would be able to think and feel more secure with arithmetic at the conclusion of the class.

2. Personnel Director

   We discussed worker situations and the necessity for worker input, and that the class be worker-oriented with emphasis on progression and problem solving, know basic skills, and deal with numbers rationally. We were provided time cards, and pay and benefit information.

3. Supervisor of Secondary Operations

   He emphasized that skills taught in the class be related to specific job tasks, for example, blueprint tolerances, number identification, and graphs and charts. His perspective on educational programs was, "What are we gaining from all of this."

4. Quality Control Manager

   He stressed graphing and sequencing skills, and the need to read blueprints and make conversions. He felt that assessment is extremely important and gave us a lot of helpful materials.

5. Chief Production Engineer

   He conducted a tour of the facilities and explained the manufacturing process, emphasized more skills, especially reading decimals, and gave us more information on the company.

6. 2 more floor supervisors

   They talked about the tools and the need to measure accurately with an emphasis on reading calipers and them making conversions.

7. Tour

   It was very beneficial to see the conditions in which the employees work, what they do and the machines and tools that they utilize. They work long hours. The most important aspect of the operation is to catch an "out of control situation" - catch defective products before they get any further along in the manufacturing process.

8. Employee

He was encouraging and recognized the benefits of the previous classes that he took. He explained in detail the needs of the employees and the need to have carry over to life skills from classes.

Conclusion

The tour and interviews, while being interesting, were also very beneficial and a crucial element in designing a customized curriculum for this company.

Needs Assessment for site visit at Metalex Corporation, February 7, 1994

Interviewers - Math Team and Consultant

Contacts:

1. Director of Human Resources
   The director coordinated our visit.

2. Supervisors

   The supervisors from six departments (Filter, Maintenance, Shearing and Building Products, Engineering, Coil Fed-Ten Foot, and Quality) met with our team for over an hour. They gave us some background of the company and furnished us with some company-specific materials. Each supervisor enumerated problem areas within his department. Each then suggested certain mathematical skills which needed to be taught or reviewed in the class that would help the employees in these problem areas. At the end of the meeting the Director of Engineering summed up their expectations for this class:

   A. Students should be able to more accurately fill out production sheets.
   B. Students should be able to calculate and plot SPC data.
   C. Students should become adept at mathematical conversions--fractions to decimals, and minute to fractional/hour.
   D. Students should be able to name and understand decimal place values.

3. Students

   We met with four students who had expressed an interest in this math class. One had been in a previous math class at Metalex, and one had taken a business math class at CLC. They had a number of questions about the program and were cautiously interested in it. They told us about skills they would like to learn or review, both for the workplace and for their own personal use at home. A number of the skills they mentioned were the same ones listed by the supervisors, for example, decimal to fraction conversions.

4. Tour

   It was very beneficial to see the conditions in which the employees work, what they do and the machines and tools that they utilize. By the time we went on the tour, several of the supervisors had already put together more company-specific forms that the students need to work with, and on-site, showed us what mathematics the students need to use to fill them out more accurately.

CONCLUSION

The supervisors' meeting gave us specific information that we needed. The supervisors seemed much more enthusiastic about the program at the end of our meeting. Having several prospective students there was also helpful, as was the tour.

NEEDS ASSESSMENT FOR SUPERVISORS

Name: ______________________________ DATE: __________

Department ____________________ Position: ________________

Company/Address: ____

____

Telephone: ____________________ Interviewer: ______________

1. Could you give us some background information on your company?

2. Could you give us some background information on your employees?

   - What jobs do they do?

   - How long have your employees worked here?

   - Have employees' jobs changed recently? How? Are changes expected in the future?

- What are the educational backgrounds of your employees?

- What types of training have your employees had? What other types of training are planned?

3. How will employees be selected/recruited for this program?

4. What are your expectations for the proposed program?

5. If you have had classes before, are there any changes you would like to see?

Quest1.113

NEEDS ASSESSMENT FOR SUPERVISORS -- ESL
(ORAL VERSION)

NAME: ______________________________ DATE: ______________

DEPT: __________________________ POSITION: ______________

COMPANY/ADDRESS: ____

____

TELEPHONE: _________________ INTERVIEWER: ________________

1. How are people trained to do their jobs if they don't speak English?
2. Do Limited English Speakers in your department require closer supervision?
3. Do they have less job flexibility? In what way?
4. Are your employees interested in learning English?
5. Do you have to use interpreters?
   How often?
   How much time is wasted?
6. Are there safety problems involving language?
   What are they?
7. Are there aspects of the job having to do with waste, quality, and appearance that may be difficult to communicate to the workers? Examples:
8. How does English affect record keeping?
9. Are there misunderstandings between native English speakers and Limited English Speakers? What?
10. How well is the overall work process grasped?
11. What happens when there are breakdowns and emergencies?

12. Which of the following situations are problems for employees?

    a) Understanding job duties - -
       What duties?

    b) Understanding instructions - -
       What instructions?

    c) Following directions - -
       What directions?

    d) Following production changes

    e) Understanding work errors

    f) Correcting work errors

    g) Reporting problems

    h) Understanding company policy

    i) Calling in sick

    j) Complying with attendance/punctuality policies

    k) Asking for clarifications when necessary

    l) Understanding general conversation

13. Which of the following are difficult for employees to understand and/or complete?

    a) Time cards.

    b) Production quota records.

    c) Error notices.

    d) Safety warnings.

    e) Company newsletters.

    f) Company notices/memos.

    g) Job specific forms.

A CURRICULUM GUIDE FOR
GED TEST PREPARATION
IN THE WORKPLACE

NATIONAL WORKPLACE LITERACY GRANT
RONDA BALLINGER
Writer
DOUG PETCHER
Project Director

GED PREPARATORY COURSE

I. PROGRAM PHILOSOPHY AND GOALS

The philosophy of the GED Preparatory program in the workplace is to provide the adult student with an opportunity to prepare for testing in the five areas on the GED exam. By promoting a positive learning environment, the classes build confidence, promote self-esteem, and encourage continued educational pursuits.

The goal of the GED Preparatory class is to help eligible students review the five subject areas covered on the GED exam and to complete the required testing in the areas of the United States Constitution and State of Illinois Constitution exams. The General Educational Development (GED) exam is a series of five tests which demonstrate that an individual has acquired the fundamental equivalency of a high school education. An individual who has passed the exam is eligible to receive a High School Equivalency Certificate.

II. STUDENT PROFILE

This course is designed for adult learners in the workplace who have not received a high school diploma. Many of these students work more than eight hours a day, work overtime on weekends, have second jobs, and have responsibilities at home. Classroom instruction and assignments should be designed with this in mind. Completion of GED testing outside of class is usually difficult due to time restraints; therefore, support from the instructor and management is extremely helpful when encouraging these students to complete his/her GED testing.

The population in workplace GED classes is primarily male. Class size usually averages eight to ten students with approximately 75% completing the class. Ethnic background and age of the students are varied.

III. SCOPE AND SEQUENCE OF PROGRAM

Although classes will vary in ability, the following instructional sequence is a sample of a twelve week, forty-eight hour course that can be adapted to fit each classes' needs:

WEEK ONE: GED and class information, in-class essay-Why have you decided to study for the GED?, introduction of critical thinking skills using GED practice test (Social Studies)

WEEK TWO: Fractions (forms, raising, reducing, mixed numbers, improper fractions, comparing fractions, common denominator, adding, subtracting, multiplying, dividing), applying critical thinking skills with GED practice test (Social Studies or Science), graphical interpretations

WEEK THREE: Fraction word problems, decimals (place value, zeros in decimals, comparing and ordering, rounding, adding and subtracting), GED practice test (Science)

WEEK FOUR: Decimals (multiplying, dividing, word problems), review of literary forms, GED practice test (Literature and Arts)

WEEK FIVE: Ratio and proportion, United States and Illinois Constitution review

WEEK SIX: Percents (changing to fractions and decimals, solving percent problems), Constitution test

WEEK SEVEN: Percents (interest word problems), math midterm, writing (reading the prompt, brainstorming, grouping and naming ideas, expanding and ordering ideas)

WEEK EIGHT: Mean, median, graphs, measurement, probability, numeration, writing (controlling idea, introductory paragraph, three-body paragraph, conclusion)

WEEK NINE: Order of operation, formulas, angles, triangles, similar triangles, writing (in-class group generated essay)

WEEK TEN: Pythagorean theorem, perimeter, area, volume, writing (in-class individual essay)

WEEK ELEVEN: Algebraic expressions, equation, operations with signed numbers, factoring, review of sentence structure, usage, and mechanics, GED practice test (Writing Skills-Part 1)

WEEK TWELVE: Graphing, distance between two points, slope of a line, GED practice test (Mathematic)

IV. ASSESSMENT PLANS-PLACEMENT

Placement of the student in a GED Preparatory class is usually based on the results of the TABE (Tests of Adult Basic Education). This provides a reliable estimate of an individual's reading, mathematics, and language skills. The most successful GED student usually falls within the D (Difficult) and A (Advanced) level with an estimated grade range of 6.6 -12.9. Minimal proficiency skills to be considered for an entry level GED student should include: (1) comprehension of reading passages demonstrated by student's ability to extract details, analyze data, identify main ideas, and interpret events described in passages; (2) accurate performance of all four basic math operations (addition, subtraction, multiplication, division), correct selection and performance of math operations when solving narrative types of math problems, application of simple fractions; and, (3) composition of a legibly written 100-word narrative paragraph.

ASSESSMENT PLANS-EVALUATION

There are several ways to document student progress. It is best to use a variety of evaluation tools. Some of these procedures are as follows:

- Competency Checklists
- Portfolios
- Anecdotal comments
- End of class progress reports
- Self evaluation

A sample competency checklist with comments and an end of class progress report are in the appendix.

Of course, the ultimate evaluation is the successful completion of all five GED test.

V. INDIVIDUAL COURSE OUTLINES

Test 1: Writing Skills

The GED Writing Skills Test consists of two sections. Part 1 is a multiple choice test of 55 questions. One or two paragraphs will be followed by questions about the sentences within the paragraphs. Some questions will ask the student to locate errors in the passage, while others may require one to restate an idea in different words. The questions will test the student's knowledge of sentence structure, grammar, usage, punctuation, spelling, and capitalization. Part 2 measures the student's ability to comprehend a given topic and to write a 200 word essay on that topic. The topic will draw on the student's general knowledge and ask the student to explain something about a common issue or problem. The ability to plan, organize, and clearly communicate ideas is most important in this section.

Core competencies:

- understand and use correct sentence structure and usage by editing sentences within the context of one or more paragraphs
- to recognize errors in spelling, punctuation, and capitalization by editing sentences within the context of one or more paragraphs
- be familiar with the question types (sentence correction, sentence revision, and construction shifts) in Part 1 and be able to answer questions in that format
- apply the writing process to analyze a given topic, state an opinion clearly, and support it convincingly in well-organized paragraphs.

Instructional techniques:

- Create several freewriting topics from the workplace, for example:
  "Describe your typical workday."

"What do you like best about your job?"
"What is one thing that really bothers you? Tell what it is and why it bothers you so much."
"Suppose you could do any job you wanted to do. What would that job be an what would you typical day be like."

* Create a file of previous students essays and have the class as a whole analyze the writing techniques--organization of ideas, use of specific details, sentence structure, punctuation, and so forth. Try to have a variety of essays so that the students can compare good and bad writing.
* Analyze several writing prompts as a group and individually and have students write thesis statements for each.
* Give students a thesis statement and a list of possible supporting details and have them group into similar themes and eliminate irrelevant details, or re-write them to make them relevant.
* Individually or in groups analyze editorials from the newspaper and/or magazines. Try to select topics of interest to the student.
* Have the class as a whole select one writing prompt, brainstorm, organize and group ideas, write an introduction, three body paragraphs, and a conclusion.
* Select teams and have them write an essay of their choice.
* Using a typical GED writing prompt, simulate a testing situation.
* Analyze GED-type item sets in Part 1 of the Writing Skills Practice Test.
* Assign small groups to study a grammar rule or rules and present a report and a practice exercise on their portion.
* Assign exercise sheets when students are having problems in these particular areas:
    sentence structures
    subject-verb agreement
    verb form
    spelling plurals, possessives, and contractions
    capitalization
    punctuation

Test 2, 3, 4: Social Studies, Science, Literature and the Arts

The Social Studies, Science, and Literature and the Arts tests are basically reading tests and stress understanding and analysis rather than simple recall. Students need to understand the different level of questions and to recognize how they apply reasoning skills in their everyday lives. If they understand this concept then the tests become less intimidating. Editorial cartoons and graphs should be reviewed before the Social Studies test. Literary forms and poetry should also be discussed before the Literature and Arts test because these seem to be difficult areas for most students.

Core competencies:

- analyze data and graphs
- comprehend literal meaning in a given passage by restating and/or summarizing ideas
- comprehend inferential meaning in a given passage by identifying implications, understanding consequences, and drawing conclusions
- read a passage and apply the information
- analyze social studies/science information
- analyze literary forms and meaning

(Adapted from Teachers, Tools, and Techniques, Adult Learning Resource Center, Des Plaines,IL)

Instructional techniques:

- Select several examples of graphs from magazines and newspapers and have students analyze them as a whole, in groups and individually.
- Give students editorial cartoons from the local paper and discuss some of the social issues involved.
- Compile newspaper editorials on social and economic issues of the day. (Remember-many students do not have access to newspapers or magazines) Discuss which statements are opinions and which are facts used to support these opinions.
- Try to have a portable map of the U.S. and the world for your classroom. Locate any country or region mentioned during class.
- Give students sets of relevant data-work related, if possible-and have them make line graphs, bar graphs, and pie graphs from them.
- Ask students to diagram something on their job-part of a machine they use, for example.
- Using a passage from the GED book, have students make a chart listing causes on one side and effects on the other. (Recognizing cause-and-effect relationships is always a key skill in science) Any work-related situation could also be used.
- Strongly encourage the use of context clues to determine the meaning of words they do not know. Make sure they know that context clues include words before and after the unknown word. Use practice passages from science, social studies and literature selections.
- Select a short story and discuss inferences, characters, setting, theme, plot.
- If students are willing, have them read poems aloud to better understand how to read and comprehend poetry. Remember songs are poetry also and may be used. Try to keep your students interest and background in mind when you select poems.
- Analyze some of the GED-type test items from the Official Practice Tests as a group. Whenever appropriate ask the

student why he/she selected a particular answer. This helps with inference questions by pinpointing clues used to arrive at the correct answer.

- Assign practice exercises from the GED book, reproducibles, or self-made, if students are having difficulty in any particular area.
- Select teams and have them work together on a practice test.
- Simulating a testing situation, have students complete an Official Practice Test individually.

Test 5: Mathematics

The GED Mathematics Test consists of multiple choice questions. The problems are word problems that not only test the student's ability to do arithmetic and algebraic operations, but also test problem-solving and estimation skills. Some word problems are based on charts, diagrams, or graphs. Other problems require the student to decide the best way to "set-up" the problem in order to solve it, or to determine what information is needed to solve a problem. Estimation is a very important skill for the GED student; therefore, emphasis should be placed on estimation strategies in class and the "sensible" solution to the problems.

Core competencies:

- solve a variety of multi-step whole number word problems
- solve a variety of multi-step decimal word problems
- solve a variety of multi-step fraction word problems
- use ratio and proportion to solve a variety of word problems
- solve a variety of multi-step problems involving percentages
- convert and compute measurements
- analyze and interpret a variety of tables and graphs and draw conclusions from data presented
- use algebraic expressions and simple equation to solve a variety of word problems
- solve a variety of problems involving plane and solid geometry

(Adult Learning Resource Center-adapted from Washington State Core Competencies)

Instructional techniques:

- Create a file of practical math problems relating to the workplace.
- Ask students to show you some of the math they have to do in their jobs. Be sure to use this knowledge of your students when introducing a math concept. (Remember-let the student excel and be "the teacher" whenever possible)
- Stress the importance of "visualizing" a problem.

Demonstrate how to "draw" a word problem in order to determine how to solve it.

* If students have difficulty with fractions or large numbers in a word problem, suggest that they use smaller whole numbers in place of the fraction or large number then try to set up the problem and solve it.
* Have students work in pairs when trying to solve word problems.
* Review previously learned skills by starting each math lesson with a "Problem of the Day". Encourage students to create their own original problem to use for the class.
* Create mini-tests using several different math skills, and always include one or two "set-up problems".
* Simulate the testing situation using an Official GED Practice Test.

STUDENT EVALUATION (Math)

Today's Date

Name

Company

Position

Class Name and Class Starting Date

Instructions: For each statement, please circle the number that best describes any changes resulting from the class you have been taking. Space is provided at the bottom for additional comments.

	Greatly Improved	Somewhat Improved	No Change or Worse
1) I can complete math calculations on my job more easily.	2	1	0
have confidence in my ability to do math calculations correctly.	2	1	0
3) I feel that I understand the math concepts taught in this class and how they relate to each other.	2	1	0
4) I can convert fractions to decimals and decimals to fractions.	2	1	0
5) I use a calculator to check my work instead of to do my work.	2	1	0
6) Math is easier for me now.	2	1	0
7) I feel I could take another math class and be successful.	2	1	0
8) I understand the math calculations I perform on my job.	2	1	0
9) I have confidence in doing my job.	2	1	0
10) I work productively and efficiently.	2	1	0
11) I am ready for other kinds of training and classes.	2	1	0

Comments:

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SUPERVISOR EVALUATION (READING/WRITING)

Today's Date

Name

Company

Position

Class Name and Class Starting Date

Instructions: For each statement, please circle the number that best describes any changes resulting from the class the student named above has been attending. Space is provided at the bottom for additional comments.

	Greatly Improved	Somewhat Improved	No Change or Worse	Not Observed
1) Can read manuals and other documents.	2	1	0	N/O
2) Shows confidence in reading ability.	2	1	0	N/O
Shows understnading of what is read.	2	1	0	N/O
4) Can look up information when needed.	2	1	0	N/O
5) Understands written instructions and procedures.	2	1	0	N/O
6) Can read graphs and charts.	2	1	0	N/O
7) Can complete written work documents correctly.	2	1	0	N/O
8) Writes in a way that is understandable to others.				
9) Writing shows correctness and accuracy.	2	1	0	N/O
10) Shows confidence in writing ability.	2	1	0	N/O
11) Takes initiative on the job.	2	1	0	N/O
12) Works productively and efficiently.	2	1	0	N/O
13) Performs high quality work.	2	1	0	N/O
14) Expresses interest in other types of training and classes.	2	1	0	N/O

ents:

RELIABLE EMPLOYEES/COLLEGE OF LAKE COUNTY CLASSES

DEPT. & NAME	SAFETY RECORD REPORTABLE INJURY			JOB PROMOTION OR ED. IMPROVEMENT	ATTENDANCE		PERFOMANCE BONUS*
	'92	'93	'94		'93	'94	
1650N							
PIERZCHALA, CHESTER				GED;** MACHINE OP*** TO SET-UP MAN	4T****; 7AB	1AB	
1651							
CASTILLO, JUAN					1AB	0	*
DAWSON, RUSSELL				LABORER TO MATERIAL HANDLER	3T; 6AB	3T;3AB	
SLASKI, JOE					2AB	0	*
1651N							
PIERZCHALA, GEORGE					PA	1AB	
1653							
BERTOCCHINI, CARMELLA	1	0	0		5T;2AB	1T	
BLANCO, ALBERTO				MATERIAL HANDLER TO GROUP LEADER	2T; 5AB	1AB	*
CURTIS, DARRYL					4T; 21AB	2T; 6AB	
LEWIS, LONNIE					2AB	0	
MCCREE, DARRELL					1T; 8AB	1AB	
MILLER, JAMES					1AB	3AB	
1653N							
BROUGHTON JR., KENNETH					PA	2T;1AB	*
CARNEY, FLOYD					PA	1T	*
CLEGER, JUAN				GED	PA	PA	
JOHNSON, FLOYD					4T	1AB	
1655							
LEPEK, DEE				MACH OP/ TRAINED & FUNCT GRP LEADER	5T; 6AB	4AB	
MCDONALD, LATONYA					17AB	0	
1655N							
MCGUIRE, ARTHUR	1	0	0		2T; 1AB	1T; 1AB	
PENTIMONE, CINDY					4AB	3AB	
TURNIPSEED, RONNIE					4AB	7AB	
1657							
DOROTHY STEWART				HAND INSPECTION TO MACHINE OPERATOR	PA	PA	*
1658							
KOLIEF, TED				SET-UP MAN TO GROUP LEADER	PA	PA	
MARZILIANO, DIANE					28AB	1AB	*
MCCREE, LARRY					1T; 13AB	1AB	
RODROGUEZ, JOSE	0	1	0		5T; 10AB	1T; 4AB	
1658N							
DELEO, TONY					PA	2AB	*
1691							
BONODONNA, GIUSEPPE	0	1	0		27T; 74AB	2T; 15AB	
1694							
DOLORES DIAMOND				CROSSED TRAINED	7T; 2AB	1T	*
DICIE KERR				CROSSED TRAINED	7T; 2AB	2T	
MARTINEZ, CARLOS				CROSSED TRAINED	6T; 3AB	PA	*

RELIABLE EMPLOYEES/COLLEGE OF LAKE COUNTY CLASSES

DEPT. & NAME	SAFETY RECORD REPORTABLE INJURY			JOB PROMOTION OR ED. IMPROVEMENT	ATTENDANCE		PERFOMANCE BONUS*
	'92	'93	'94		'93	'94	
MITCHELL, DANNY				CROSSED TRAINED	9T; 2AB	3T; 2AB	*
1694N							
GREEN, CARRIE				CROSSED TRAINED	5T; 2AB	0	*
THOMAS, JULIA					5T	0	
1695							
ACEVEDO, VICTOR					4T; 7AB	2AB	
FLOR, MIGUEL					PA	0	
VELEZ, JOHN	1	0	0		1T	0	
1697							
DIGHERO, CARLOS				CROSSED TRAINED	2T; 6AB	3T; 6AB	
JUARBE, JUAN				CROSSED TRAINED	11AB	1AB	
MILLER, DAVID				1ST LEVEL TO 2ND LEVEL WAREHOUSE MAN	17T; 8AB	1AB	
VINCENT MITCHELL					2T; 14AB	0	
ETHEL WALLS				CROSSED TRAINED	15AB	11AB	
WILLIE WOODARD					1T; 2AB	7AB	
1697N							
FONTELLA, ED					5AB	1AB	
TOTALS:	3	2	0		128T; 271AB	56T; 84AB	12

* MONETARY BONUS / OUTSTANDING JOB PERFORMANCE
**MACHINE OPERATOR
***PASSED GED TEST
****TARDY

OBJECTIVE 4

To provide workplace skills training and support services to a significant number of eligible employees by the end of the 18-month period, and to develop a plan to provide for ongoing training in the future.

Project activities implemented to accomplish the objective include:

1. To provide workplace skills training.

   After the literacy audit, task analysis, and company input a plan for each specific course was developed. Course schedule depended on production and shift requirements. However, most classes were twice a week for 2 hours each for a total of 36 to 48 contact hours.

   The curriculum project (see ERIC Digest) describes in detail the process developed for workplace skills training to the four business partners.

   The data sheets explain the competency achievements through instruction, (see 4-a) a categorical summary of participants (see 4-b), and numerical evaluation by employees and supervisors. (see 4-c)

2. To provide support services to a significant number of eligible employees.

   The career development specialist met one to three times with each participant. The company provided release time for the educational sessions and the specialist was also available by telephone for follow up meetings. The specialist also made presentations about educational opportunities through the College of Lake County as well as other facilities near the particular companies and employee residences.

   Copies of forms used by the career development specialist are provided here. (see 4-d)

   A report of the individual employee continuing education plans is provided (see 4-e) that reflects additional educational involvement.

3. To develop a plan for ongoing training in the future.

   Each of the four partner companies submitted continuation plans that addressed the possibilities for institutionalizing their workplace literacy training program as well as software requests to support and sustain educational courses.

   The following report (see 4-f) identifies in detail each company's plan.

NATIONAL WORKPLACE LITERACY PROJECT
COMPETENCIES ACHIEVED THROUGH INSTRUCTION

COURSE	DATE	INSTRUCTOR	ENROLLMENT	MASTERY	COMPETENCY SATISFACTORY	MINIMAL
BAXTER GED	SUMMER 1993	BALLINGER	7	4 (57%)	1 (14%)	2(29%)
M-MOLDED	SUMMER 1993	HIBBARD		0	3(75%)	1(25%)
M-FOGG	FALL 1993	BALLINGER	6	3 (50%)	1 (17%)	2(33%)
RELIABLE GED	FALL 1993	HAUCA	8	2 (25%)	4 (50%)	2(25%)
M-MOLDED ESL	FALL 1993	HIBBARD	6	0	1 (17%)	5(83%)
BAXTER MATH	FALL 1993	MANTUCCA	5	0	4 (80%)	1(20%)
BAXTER READING	FALL 1993	SWEET	4	0	4 (100%)	0
METALEX GED	WINTER 1993	BALLINGER	7	1 (14%)	2 (29%)	4(57%)
M-FOGG ESL	WINTER 1993	HAWES	8	0	3 (38%)	5(62%)
RELIABLE MATH	WINTER 1993	HAUCA	14	12 (86%)	0	2(14%)
RELIABLE MATH	WINTER 1993	HAUCA	10	5 (50%)	5 (50%)	0
ABBOTT ESL	WINTER 1993	MONTFORD	9	0	4 (44%)	5(56%)
M-FOGG MATH	SPRING 1994	BALLINGER	8	0	5 (63%)	3(37%)
M-FOGG ESL	SPRING 1994	SANDFORT	10	0	8 (80%)	2(20%)
ABBOTT GED	SPRING 1994	DOMERCHIE	10	0	5 (50%)	5(50%)
RELIABLE READING	SPRING 1994	CAMPEAU	11	0	9 (82%)	2(18%)
M-MOLDED ESL	SPRING 1994	MONTFORD	4	0	4 (100%)	0
M-MOLDED ESL	SPRING 1994	MONTFORD	6	0	4(67%)	2(33%)
METALEX MATH	SPRING 1994	PIERCE	8	2 (25%)	4 (50%)	2(25%)
ABBOTT ESL	SPRING 1994	BROWN	5	0	5 (100%)	0
METALEX ESL	SPRING 1994	HELFER	6	0	0	6(100)
ABBOTT ESL	SPRING 1994	KATZ	2	2 (100%)	0	0
BAXTER MATH	SPRING 1994	FINNIGAN	6	1 (17%)	4 (66%)	1(17%)
BAXTER READING	SPRING 1994	SWEET	10	0	4 (40%)	6(60%)
BAXTER MATH	SPRING 1994	SWEET	7	1 (14%)	6 (86%)	0

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COURSE	DATE	INSTRUCTOR	ENROLL-MENT	COMPETENCY MASTERY	COMPETENCY SATISFACTORY	COMPETENCY MINIMAL
BAXTER MATH	SUMMER '94	FINNEGAN	8	8(100%)		
BAXTER MATH	SUMMER '94	FINNEGAN	6	6(100%)		
BAXTER READING	SUMMER '94	SWEET	9	6(100%)		
M-FOGG MATH	SUMMER '94	BALLINGER	6		6(100%)	
M-MOLDED ESL	SUMMER '94	MOUNTFORD	7	5(71%)	2(29%)	
M-MOLDED ESL	SUMMER '94	MOUNTFORD	6	3(50%)	3(50%)	
METALEX MATH	SUMMER '94	PIERCE	4		3(75%)	1(25%)
REL.PWR READING	SUMMER '94	CAMPEAU	14	6(43%)	8(57%)	
STONE CON. ESL	SUMMER '94	HAUGH	13	6(46%)	5(38%)	2(16%)
			254*	73(30%)	117(46%)	61(24%)

* This is a duplicated head count and includes persons taking one or more classes.

NATIONAL WORKPLACE LITERACY PROJECT
FINAL DATA SHEET

tal Participants: 750

Male: 521(69%) Female: 229 (31%)

Average Age Of Participants: 38

White: 37% African American: 16%
Latino: 45% American Indian: 1%
Asian/Pacific: 1%

	TOTAL SERVED	*INSTRUCTED & ASSESSED*	*ASSESSED ONLY*
ABBOTT	294	26	268
BAXTER	44	37	7
RELIABLE	162	41	121
M-FOGG	37	31	6
M-MOLDED	31	31	-
ETALEX	19	18	1
STONE	163	15	148
	750	199	551

Of those participants enrolled in classes:

45% Enrolled in Basic Skills Classes.
19% Enrolled in GED Classes.
36% Enrolled in ESL Classes.

Of those participants enrolled in classes: 31% have taken more than one class.

Of those participants given pre and post standardized tests: 82% scored higher on post tests.

Total contact hours (# of teaching hours workers receive) provided: 1,856

% of participants with limited English skills: 11%

Years with company: 0 - 5: 46% 6 - 10: 19% 11 - 15: 12% Over 16: 23%

At the end of each class, students and their supervisors were given evaluation forms to complete. These were designed to measure the student's and the supervisor's perception of the workplace literacy class.

The results of the student surveys are as follows:

Summary	Greatly Improved	Somewhat Improved	No Change
Reading/Writing	53%	45%	2%
GED Preparation	29%	54%	17%
Math	61%	31%	8%
ESL	40%	54%	6%

The supervisors perceptions of their employees in class are as follows:

Summary	Greatly Improved	Somewhat Improved	No Change	Not Observed
Math	22%	45%	25%	8%
Reading/Writing	12%	69%	2%	17%
ESL	21%	59%	18%	2%

INDIVIDUALIZED EDUCATION PLAN

Date ____________________

Name ____________________

Social Security Number ____________________

Company Name ____________________

Department ____________________

Position/Job Title ____________________

Length of Time with Company ____________________

Describe Your Job Duties: ____________________

____

List Your Previous Education/Job Training/Classes: ____________________

____

EDUCATIONAL GOALS (Please check all that apply)

Short Term Goals (less than 1 year)

- ___ Get a GED
- ___ Improve English language skills
- ___ Improve reading & writing skills
- ___ Improve math skills
- ___ Take college classes (list names of classes)

____

- ___ Other (please list)

____

Long Term Goals (more than 1 year)

- ___ Get a GED
- ___ Take college classes (list names of classes)

____

- ___ Complete an associate degree
- ___ Complete a bachelors degree
- ___ Other (please list)

____

Continued on other side

ADVISING SESSION NOTES

DATE	NOTES

TO: NATIONAL WORKPLACE LITERACY PROJECT STUDENTS

FROM: JOHN BIRD, THE COLLEGE OF LAKE COUNTY

RE: CONTINUING EDUCATION PLANS

DATE: AUGUST 29, 1994

The National Workplace Literacy Project will be completed on September 30, 1994. As a final requirement for this project, we need information from you. Please take a few minutes to complete the bottom section of this form, stick it in the enclosed envelope, and return it to your personnel department or place it in the mail. All information will be kept strictly confidential. Thank you for your time and cooperation with the project, and I wish you all continued success.

NAME:____________________ COMPANY:____________________

DID YOU TAKE TRAINING CLASSES AT WORK? YES NO

WHAT TYPE OF TRAINING CLASS DID YOU TAKE? MATH READING

ENGLISH AS A SECOND LANGUAGE (ESL)

GED

SINCE TAKING THE WORKPLACE CLASS, HAVE YOU HAD ANY ADDITIONAL INVOLVEMENT WITH EDUCATION PROVIDERS (ex: college classes, meetings with career/academic counselors, GED testing, work related trainings, etc...)? YES NO

IF SO, WHAT INVOLVEMENT DID YOU HAVE?____________________

____

ARE YOU CURRENTLY INVOLVED WITH SCHOOL/TRAINING? YES NO

IF YES, WHERE ARE YOU RECEIVING YOUR TRAINING?____________________

____

COLLEGE OF LAKE COUNTY
NATIONAL WORKPLACE LITERACY PROJECT
INFORMATION FORM

____ Placement Testing for Basic Skills/ESL/GED Classes
___ TABE Locator ___ TABE Survey ___ TALS ___ ESLOA ___ CELSA

___ Basic Skills Level General Assessment Testing
___ TABE Survey ___ TALS ___ ESLOA ___ CELSA

___ Individual Advising Session

Part I: Please complete all of the information in Part I.

1. ______________________________ ______________
Name Date

2. ______________________________
Social Security Number

3. ______________________________
Street Address

4. ______________________________
City, State, and Zip code

5. ______________________________
Telephone: Home /Work

6. ______________ _____ ______________
Birth Date (mo, day, yr.) Age Country of Birth

7. Sex: _____Male _____Female

8. What is your ethnic origin?
_____Asian/Pacific Islander _____Hispanic
_____African American _____White Non-Hispanic
_____American Indian/ Alaskan Native _____Other______________

9. What is your first language?______________

10. ______________ ______________
Company Name Department

11. ______________ ______________
Position/Job Title Work Hours (Start-Finish)

12. How long have you worked at this company?__________

13. What was your last completed grade in school?______________

- -

DO NOT WRITE BELOW THIS LINE

Part II. TO BE COMPLETED BY INSTRUCTOR OR COUNSELOR.

Testing Results: ______________________________

____

____

____

CONTINUING EDUCATION PLANS

ABBOTT LABORATORIES

Quest. 1 - Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest. 2 - Are you currently involved with school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest. 2 - Are you currently involved with school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement with education providers?	Y		Work related training.
Quest. 2 - Are you currently involved with school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest. 2 - Are you currently involved with school/training?		N	

Abbott Labs (Page Two)

Quest. 1 - Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest. 2 - Are you currently involved with school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement with education providers?	Y		College classes at CLC
Quest. 2 - Are you currently involved with school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest. 2 - Are you currently involved with school/training?		N	

CONTINUING EDUCATION PLANS

BAXTER HEALTHCARE

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		Taking classes for GED. Have taken two tests in English/Literature.
Quest 2: Are you currently involved with school/training?	Y		At Mundelein High School.

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		College classes to take some GED testing.
Quest 2: Are you currently involved with school/training?	Y		CLC Waukegan campus

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest 2: Are you currently involved with school/training?		N	

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		I am going to take microbiology I.
Quest 2: Are you currently involved with school/training?	Y		At Baxter Healthcare

Baxter Healthcare (Page Two)

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest 2: Are you currently involved with school/training?		N	

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		Meetings with career/academic counselors.
Quest 2: Are you currently involved with school/training?	Y		At Baxter and CLC

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		Three GED classes.
Quest 2: Are you currently involved with school/training?	Y		Intro Micro I at Baxter.

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		I am now taking Microbiology.
Quest 2: Are you currently involved with school/training?	Y		At Baxter.

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		GED class in Burlington in 1993.
Quest 2: Are you currently involved with school/training?	Y		Home training.

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		Microbiology class provided by CLC. Scheduled for career development seminar.
Quest 2: Are you currently involved with school/training?		N	

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest 2: Are you currently involved with school/training?		N	

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		Micro class at Baxter.
Quest 2: Are you currently involved with school/training?	Y		At Baxter.

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest 2: Are you currently involved with school/training?		N	

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?	Y		GED testing.
Quest 2: Are you currently involved with school/training?	Y		

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest 2: Are you currently involved with school/training?		N	

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest 2: Are you currently involved with school/training?		N	

Quest 1: Since taking the workplace class, have you had any additional involvement with education providers?		N	
Quest 2: Are you currently involved with school/training?		N	

CONTINUING EDUCATION PLANS

MACLEAN-FOGG

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?	Y		Supervisor Class
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?	Y		GED testing; work related trainings, etc.
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

MacLean Fogg (Page Two)

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?	Y		Computer class (DOS).
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?	Y		Marquette U. Quality Technician Class.
Quest. 2 - Are you currently involved w/school/training?	Y		At MacLean Fogg

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?	Y		Just participated in class discussions.
Quest. 2 - Are you currently involved w/school/training?	Y		At MacLean Fogg

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

CONTINUING EDUCATION PLANS

METALEX

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

METALEX (Page Two)

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?	Y		The company is offering to pay for an electrical course at the college.

Quest. 1 - Since taking the workplace class, have you had any additional involvement w/education providers?		N	
Quest. 2 - Are you currently involved w/school/training?		N	

COLLEGE OF LAKE COUNTY

NATIONAL WORKPLACE LITERACY GRANT

A part of the College of Lake County's National Workplace Literacy Grant stipulates each partner develop a plan for continuing workplace literacy services. Companies are encouraged to incorporate a written plan to address the needs of workplace literacy through classroom instruction and a learning resource center. Each partner has received information about continuing classes through the services of the college's workplace literacy training coordinator. They have also been given suggestions for the purchase of computer software.

The following pages outline each company's plan for institutionalizing their program.

OPTIONS FOR CONTINUING YOUR WORKPLACE PROGRAM:

- Continue to offer workplace classes
- Set up a volunteer tutor program
- Set up a learning resource center

WORKPLACE CLASSES

How many contact hours per year will be offered?

For whom will the classes be offered?

On what will they focus?

What incentives will workers be offered to attend them?

What supplemental activities or services will supplement the classes? (LRC or tutoring, for example)

VOLUNTEER TUTOR PROGRAM

Who will do the tutoring?

How will recruiting be handled?

What group or groups will be focused on?

How will the tutoring be coordinated?

Where will it occur?

What materials will be available for use?

LEARNING RESOURCE CENTER

What space will be dedicated for this use?

How will it be equipped?

- Bookshelves, chairs, tables or carrels
- Books
- Tape recorders
- VCR
- Computers

Who will it serve?

What incentives will be offered for use of it?

At what times will it be available for use?

Who will staff it?

Some options - -

- Volunteer tutors
- Staff person provided on a contract basis a set number of hours weekly
- LRC used in conjunction with a class taught through contract services

NATIONAL WORKPLACE LITERACY PROJECT
PARTNER REQUESTS

RELIABLE POWER:

Skills Bank	$1,595.00

MACLEAN FOGG:

ESL-Speak Easy	
Conversations	195.00
Ellis Master	595.00
Speaking Language Master	119.00
	$ 909.00

ABBOTT

Vocabulary Mastery	$ 199.95
Speaking Lang. Master	119.00
Community Exploration	79.00
Speak Easy Conversations	195.00
	$ 592.95

BAXTER

Queue GED	$1,495.00

METALEX

New Math Blaster Plus	$ 29.95
Grammar Gremlins	32.95
Word Attack Plus	34.95
Success w/Fractions Series	110.00
Success w/Decimals Series	110.00
	$ 317.85

COLLEGE OF LAKE COUNTY

Skills Bank	$1,595.00
TOTAL	$6,504.85

I.V. Systems Division

Baxter Healthcare Corporation
Route 120 & Wilson Road
Round Lake, Illinois 60073-0490

708 546 6311

Baxter

To: Mary Kay Gee
College of Lake County
Director, National Workplace Literacy Grant

Date: August 10, 1994

From: Joan Trovillion
Baxter Healthcare
In-house Grant Coordinator

Subject: Plans for Program Continuity

Mary Kay, The Round Lake Drug Delivery facility will continue to support the development of its employees through the Skills Enhancement (Basic Skills) program. We see the program as one of our key initiatives in preparing our workforce for a future filled with change. This memo outlines the program continuation plan. Please review it and feel free to call me if you have any questions.

CONTINUATION OF CLASSES

Classes in **Workplace Reading and Writing, Multilevel Math,** and **GED Preparation** are considered the core curriculum of our Skills Enhancement program. We have committed to conducting at least six classes each year. We will supplement the Skills Enhancement program with classes from the Drug Delivery **TEI (Total Employee Involvement) Certification** curriculum to help us meet goals of developing and retaining a "World Class" workforce. Training in teamwork, problem solving, and statistics are supported through our TEI and Quality Leadership Process classes.

One incentive for employee participation is paid release time to attend Skills Enhancement classes. Another is career and education counseling for participants.

ESTABLISH LEARNING RESOURCE CENTER

Plant management has offered the use of PC(s) in the general use PC bullpen area to employees who want to pursue individual study. They will be set up for employees to follow up on their basic skill courses in reading, writing, math and GED prep. Software that can be used on our LAN needs to be purchased.

Please refer to the attached plan.

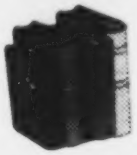
BEST COPY AVAILABLE

SKILLS ENHANCEMENT PLAN
BAXTER HEALTHCARE
ROUND LAKE DRUG DELIVERY MANUFACTURING

	PROGRAM	CLASS	PARTICIPANTS
Fall/Winter '94			
	Skills Enhancement	English as a Second Language	10 students
		Multilevel Math	10 students
		Basic Skills (PC) Self Study	individuals
	Quality Leadership Process	Teams for Excellence	TBD
Winter '94/Spring '95			
	Skills Enhancement	Multilevel Math	10 students
		Workplace Reading and Writing	10 students
		Basic Skills (PC) Self Study	individuals
	TEI Certification	Microbiology	20 students
	Developmental	Interviewing Skills	TBD
Summer '95			
	Skills Enhancement	GED Prep	8 students
		Multilevel Math	10 students
		Basic Skills (PC) Self Study	individuals
Fall/Winter '95			
	Skills Enhancement	Multilevel Math	10 students
		Workplace Reading and Writing	10 students
		Basic skills (PC) Self Study	individuals
	TEI Certification	Statistics or Microbiology	20 students
	Developmental	Goal Setting	TBD

1996 and future years will follow a similar pattern. Specific details will be worked out as the needs of the business and of the employee are evaluated.

Reliable
POWER PRODUCTS
A MAC LEAN-FOGG COMPANY



TO: **Mary Kay Gee**
FROM: Diana Bump, Education and Training Facilitator
DATE: July 20, 1994
RE: **Workplace Literacy Grant; Partner's Final Report**

Reliable Power Products located in Franklin Park, Illinois has for 85 years manufactured component hardware for the utility industry. ***Reliable*** represents the most complete source of overhead line connecting, insulating and support products in the utility market.

The management of ***Reliable*** espouses the philosophy that one of its most important obligations is to help its employees upgrade their basic skills and educational level. "There is absolutely no question that to improve ***Reliable's*** ability to compete in the world marketplace, the people must have the ability to consistently provide higher levels of value, quality, productivity and decision making. ***Reliable*** cannot achieve this higher level of employee independence and responsibility without also providing the employees the opportunity to improve their basic education and workplace skills."

By hiring a full-time, experienced, professional educator in April of 1993, the management of ***Reliable*** took the first step in bringing this commitment to fruition. The Education and Training Facilitator was charged with assessing employees' needs, developing a curriculum based on those needs, and then providing classes that would meet those needs. To provide one hour of education per week per employee on company time remains one of the goals of the **BASE (BUILDING APPROPRIATE SKILLS FOR EMPLOYEES)** program.

A 16 x 32' **Learning Center** (see photographs and brochure) was built inside the facility adjacent to the manufacturing floor. It was furnished with tables and chairs, book shelves, file cabinets, overhead projector and screen, white board, and a computer and printer on a mobile stand. All books and educational materials are housed in the **Learning Center** and are available to the employees at all times. These include an entire series in ESL, Number Power and Number Sense, New Beginings in Reading, Steck-Vaughn Language Exercises, English Workout, and numerous other skills workbooks and texts.

Before a curriculum could be developed and educational needs addressed, the skills level and needs of the production employees first had to be determined. In order to accomplish this in a most timely fashion, a prepared series of adult basic learning assessments known as **ABLE** was used. It is important that an examinee be tested with the most appropriate level of **ABLE** so that an accurate measure of his or her skills can be obtained. Therefore, a short 45 question multiple-choice test (**SELECTABLE**) involving verbal and numerical concepts was used to determine which level of **ABLE (1, 2, or 3)** was the most suitable for each individual.

SELECTABLE testing was scheduled for all production employees (166) over a three-day period. Testing was done in 10-1 hour sessions with attendance being voluntary. All 166 employees voluntarily took the test. Because of their enthusiasm and cooperation the goal of 100% employee participation was achieved.

All **SELECTABLE** tests were scored and appropriate **ABLE** level determination was made. **ABLE** Level 1 is for adults who have one to four years of formal education, Level 2 is for those who have five to eight years of formal education, and Level 3 is for those who have more than eight years of formal education.. Of the 160 production employees 48 chose to take the tests is Spanish. The **ABLE** level determination for all 160 employees is as follows:

Level 1 - 36
Level 2 - 54
Level 3 - 70

The assessment phase of the **BASE** program was completed on July 1, 1993. Tests were scored and the results compiled and charted, and a database was developed during July. By assessing the scores, the skill level and the educational needs of each hourly employee was determined.

As various groups with similar educational needs were identified, curriculum was developed and materials purchased that would most quickly and efficiently meet the needs of most employees. Because the scope of the scores was so varied and the needs so different, it was necessary to offer all courses at many different levels. Initially curriculum was developed in four major areas; math, language arts, GED and ESL(English as a second language.) There are a minimum of 65 employees who speak English as a second language and at many different levels, making it imperative that ESL classes are offered on many levels.

An entire sequence of adult oriented materials in math, language arts, and ESL have been purchased. All instructional materials purchased were especially designed for adults in the workplace, and can(and will) be adapted to the particular needs here at **Reliable.** The inventory of instructional materials on hand will be adequate for the present, but additional materials will need to be acquired as the classes move ahead. Anticipated needs are GED materials, tape player/recorder, and a VCR and monitor. As the students and the program progress, the purchase of computers for individualized instruction and a computer literacy class will be necessary. Budget approval has been received for the purchase in the fourth quarter of 1994 of the following:

1-IBM compatible 486/66/500 mB hard disk/8 meg ram
1-CD-ROM Drive/speakers & sound card
1-High resolution color video monitor
1-Multi Pro CTV

The plan for class scheduling is to identify a population, develop an appropriate curriculum, prepare the materials (each person has his/her individualized course notebook,) notify employee and supervisor of the date and time of class, and TEACH CLASS. **Non Grant** funded classes are one hour sessions, once a week. New courses will be added on a regular basis until all needs are met. This will afford the instructor the opportunity to be adequately prepared, the supervisors to adjust to the gaps in their staffing, and the flexibility to make any changes that may become necessary.

At present there are 9 classes up and running, with a total of 110 employees participating. These classes meet for one hour at a time, once a week, and are **totally funded** by **Reliable. There is no cost to the employee.** Any employee who passes the GED test will receive a refund for the testing and diploma fees. There is no cutoff date for these classes. Classes will **continue indefinitely** until all employees' basic skill levels have reached the grade level equivalent of 12. Currently classes are being conducted in English as a Second Language, Language Arts, Basic Math, Workplace Reading and Writing. Classes that have been completed are GED Preparation and Workplace Math. New classes are and will continue to be developed on a regular basis to meet the needs of all the employees. As new employees are hired, they are tested and scheduled into a class appropriate for their needs. Since the inception of the program, 176 hourly production employees have participated in **BASE.**

As a result of the **Workplace Literacy Grant**, 43 employees of ***Reliable Power Products*** have been successfully served by the staff of the College of Lake County. Two classes in Workplace Math, two in Workplace Reading and Writing, and one GED Preparation Class have addressed the needs of our employees. Classes for these 43 employees were held for a total of 1,525.75 contact hours. Many positive results can be documented as a result of pre/post testing and record comparison and are shown specifically on the spread sheets and charts that accompany this report. Thorough observation one can see improved confidence and self-esteem, and a new or renewed interest in learning on the part of all who were involved.

The feedback from the employees has been very positive, as can be seen in requests for longer and more frequent classes, and for materials that can be taken home to use for study and practice. Employees have even come into the facility to participate in their classes while on vacation. The enthusiasm for the **BASE** program at **Reliable** can be seen in all departments, on both shifts, in both the office and the plant, and from hourly worker to top management. Our goal of **B**uilding **A**ppropriate **S**kills for **E**mployees **is being realized.**

A **Lending Library** that is available to all employees has been established and is housed in the Learning Center. The library consists of adult materials, paper and hardback, on various reading levels and on a variety of topics. The collection contains a wide range of materials: travel books, historical novels, mysteries, adventures, romance novels, westerns, poetry, many classics and some "self-help" books. Two complete encyclopedia sets are also available. As our library continues to grow, so will the skills and interests of those who use it.

BASE PROGRAM STATISTICS

CLASS	DAY	TIME	RELIABLE HOURS	NUMBER OF EMPLOYEES	# CLASS HR/YR	% OF WORKFORCE
M-CLC	TUES.	12:00-2:00	2	14	32	8%
GED-CLC	TUES./THURS	2:30-4:30	2	8	24	4.57%
ESL	WED.	8:00-9:00	1	12	52	7.14%
M-100	WED.	9:30-10:00	1	18	52	10.70%
ESL	WED.	3:30-4:30	1	14	52	8.33%
LA-100	THURS.	8:00-9:00	1	11	52	6.50%
ESL	THURS.	9:30-10:30	1	15	52	8.92%
M-CLC	THURS.	4:45-6:45	2	10	32	5.95%
ESL-T	FRI.	2:30-3:30	1	13	50	7.73%
R/W-CLC	WED.	12:30-2:30	2	11	26	6.28%
R/W-CLC	WED.	12:30-2:30	2	14	26	8.33%
ESL	TUES.	8:00-9:00	1	9	52	5.14%
ESL	THURS.	3:30-4:30	1	12	52	6.85%
LA-100	TUES.	3:30-4:30	1	8	52	4.57%

CLC	COLLEGE OF LAKE COUNTY
ESL	ENGLISH AS A SECOND LANGUAGE
GED	TEST OF GENERAL EDUCATIONAL DEVELOPMENT
LA	LANGUAGE ARTS
M	MATH
R/W	WORKPLACE READING AND WRITING
T	TRITON COLLEGE

INDICATORS OF GRANT'S IMPACT:

RELIABLE POWER PRODUCTS

RELIABLE EMPLOYEES/COLLEGE OF LAKE COUNTY CLASSES

DEPT. & NAME	SAFETY RECORD REPORTABLE INJURY			JOB PROMOTION OR ED. IMPROVEMENT	ATTENDANCE		PERFOMANCE BONUS*
	'92	'93	'94		'93	'94	
1650N							
PIERZCHALA, CHESTER				GED;** MACHINE OP*** TO SET-UP MAN	4T****; 7AB	1AB	
1651							
CASTILLO, JUAN					1AB	0	*
DAWSON, RUSSELL				LABORER TO MATERIAL HANDLER	3T; 6AB	3T;3AB	
SLASKI, JOE					2AB	0	*
1651N							
PIERZCHALA, GEORGE					PA	1AB	
1653							
BERTOCCHINI, CARMELLA	1	0	0		5T;2AB	1T	
BLANCO, ALBERTO				MATERIAL HANDLER TO GROUP LEADER	2T; 5AB	1AB	*
CURTIS, DARRYL					4T; 21AB	2T; 6AB	
LEWIS, LONNIE					2AB	0	
MCCREE, DARRELL					1T; 8AB	1AB	
MILLER, JAMES					1AB	3AB	
1653N							
BROUGHTON JR., KENNETH					PA	2T;1AB	*
CARNEY, FLOYD					PA	1T	*
CLEGER, JUAN				GED	PA	PA	
JOHNSON, FLOYD					4T	1AB	
1655							
LEPEK, DEE				MACH OP/ TRAINED & FUNCT GRP LEADER	5T; 6AB	4AB	
MCDONALD, LATONYA					17AB	0	
1655N							
MCGUIRE, ARTHUR	1	0	0		2T; 1AB	1T; 1AB	
PENTIMONE, CINDY					4AB	3AB	
TURNIPSEED, RONNIE					4AB	7AB	
1657							
DOROTHY STEWART				HAND INSPECTION TO MACHINE OPERATOR	PA	PA	*
1658							
KOLIEF, TED				SET-UP MAN TO GROUP LEADER	PA	PA	
MARZILIANO, DIANE					28AB	1AB	*
MCCREE, LARRY					1T; 13AB	1AB	
RODROGUEZ, JOSE	0	1	0		5T; 10AB	1T; 4AB	
1658N							
DELEO, TONY					PA	2AB	*
1691							
BONODONNA, GIUSEPPE	0	1	0		27T; 74AB	2T; 15AB	
1694							
DOLORES DIAMOND				CROSSED TRAINED	7T; 2AB	1T	*
DICIE KERR				CROSSED TRAINED	7T; 2AB	2T	
MARTINEZ, CARLOS				CROSSED TRAINED	6T; 3AB	PA	*

RELIABLE EMPLOYEES/COLLEGE OF LAKE COUNTY CLASSES

EPT. & NAME	SAFETY RECORD			JOB PROMOTION OR	ATTENDANCE		PERFOMANCE BONUS*
	REPORTABLE INJURY			ED. IMPROVEMENT	'93	'94	
	'92	'93	'94				
MITCHELL, DANNY				CROSSED TRAINED	9T; 2AB	3T; 2AB	*
1694N							
GREEN, CARRIE				CROSSED TRAINED	5T; 2AB	0	*
THOMAS, JULIA					5T	0	
1695							
ACEVEDO, VICTOR					4T; 7AB	2AB	
FLOR, MIGUEL					PA	0	
VELEZ, JOHN	1	0	0		1T	0	
1697							
DIGHERO, CARLOS				CROSSED TRAINED	2T; 6AB	3T; 6AB	
JUARBE, JUAN				CROSSED TRAINED	11AB	1AB	
MILLER, DAVID				1ST LEVEL TO 2ND LEVEL WAREHOUSE MAN	17T; 8AB	1AB	
VINCENT MITCHELL					2T; 14AB	0	
ETHEL WALLS				CROSSED TRAINED	15AB	11AB	
WILLIE WOODARD					1T; 2AB	7AB	
1697N							
FONTELLA, ED					5AB	1AB	
TOTALS:	3	2	0		128T; 271AB	56T; 84AB	12

* MONETARY BONUS / OUTSTANDING JOB PERFORMANCE

**MACHINE OPERATOR

***PASSED GED TEST

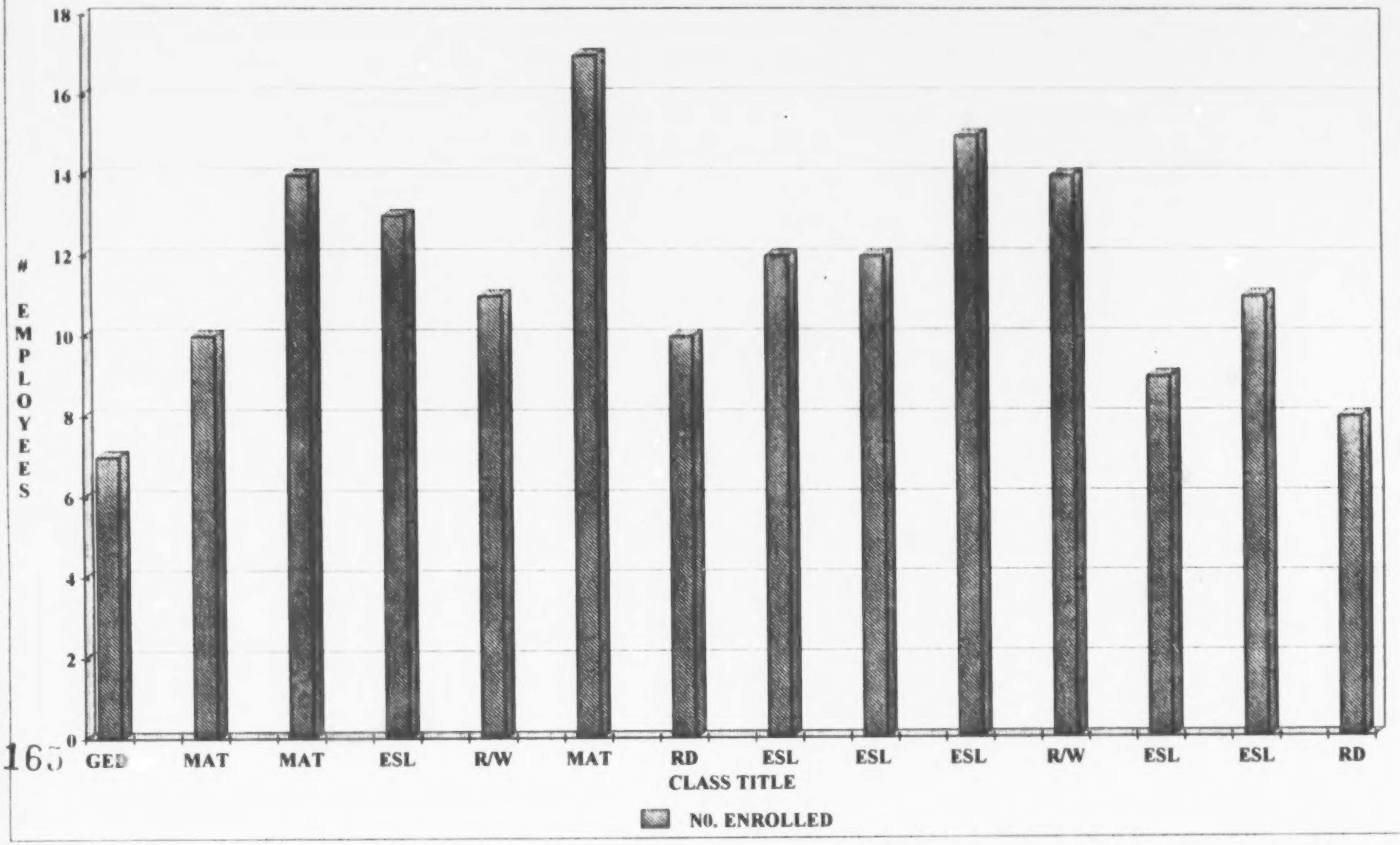
****TARDY

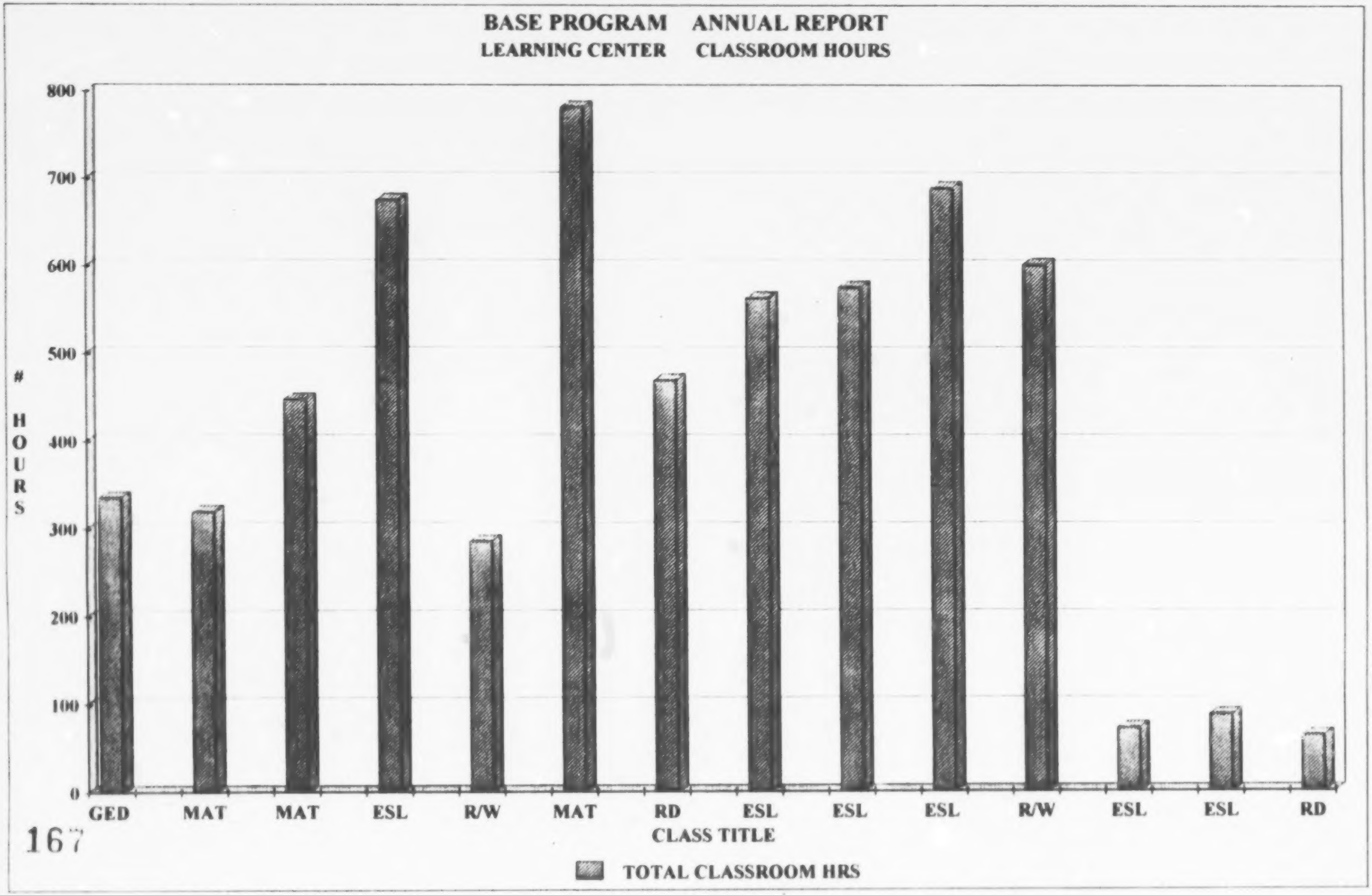
RELIABLE POWER PRODUCTS LEARNING CENTER BASE PROGRAM 12 MONTH REPORT

CLASS TITLE	N0. ENROLLED	CLASS DURATION	TOTAL CLASSRM HRS	STATUS
GED PREP	7	12 WKS. / 48 HOURS	336	**3 TESTED - 3 PASSED**
				2 ENROLLED/READING & WRITING CLASS
WORKPLACE / MATH	10	16 WKS. / 32 HOURS	320	COMPLETED - 1.16 AVG. GRADE LEVEL INCREASE
WORKPLACE / MATH	14	16 WKS. / 32 HOURS	448	COMPLETED - 2.16 AVG. GRADE LEVEL INCREASE
ESL / BASIC - TRITON	13	26 WKS. / 52 HOURS	676	COMPLETED - .65 AVG. LEVEL INCREASE
WKPLACE / LANGUAGE ARTS	11	13 WKS. / 26 HOURS	286	COMPLETED
BASIC MATH	17	IN PROGRESS (46 WKS)	782	CONTINUING / MASTERY- ADD/SUB/MULT
BASIC READING	10	IN PROGRESS (47 WKS)	470	CONTINUING / COMPLETED 2 TEXT LEVELS
ESL / 1	12	IN PROGRESS (48 WKS)	564	CONTINUING/ COMPLETING BOOK 1
ESL / 1	12	IN PROGRESS (46 WKS)	576	CONTINUING/ COMPLETING BOOK 1
ESL / 2	15	IN PROGRESS (43 WKS)	690	CONTINUING/ COMPLETING BOOK 1
WKPLACE / LANGUAGE ARTS	14	13 WKS. / 26 HOURS	602	COMPLETED
ESL / 1	9	IN PROGRESS (8 WKS)	72	CONTINUING/ BOOK 1
ESL / 1	11	IN PROGRESS (8 WKS)	88	CONTINUING/ BOOK 1
BASIC READING	8	IN PROGRESS (8WKS)	64	CONTINUING/ LEVEL 1
TOTAL	**163**		**5974**	**AVG: 36.65 EDUCATION HOURS PER EMPLOYEE**

7/15/94

BASE PROGRAM ANNUAL REPORT
LEARNING CENTER CLASS ENROLLMENT





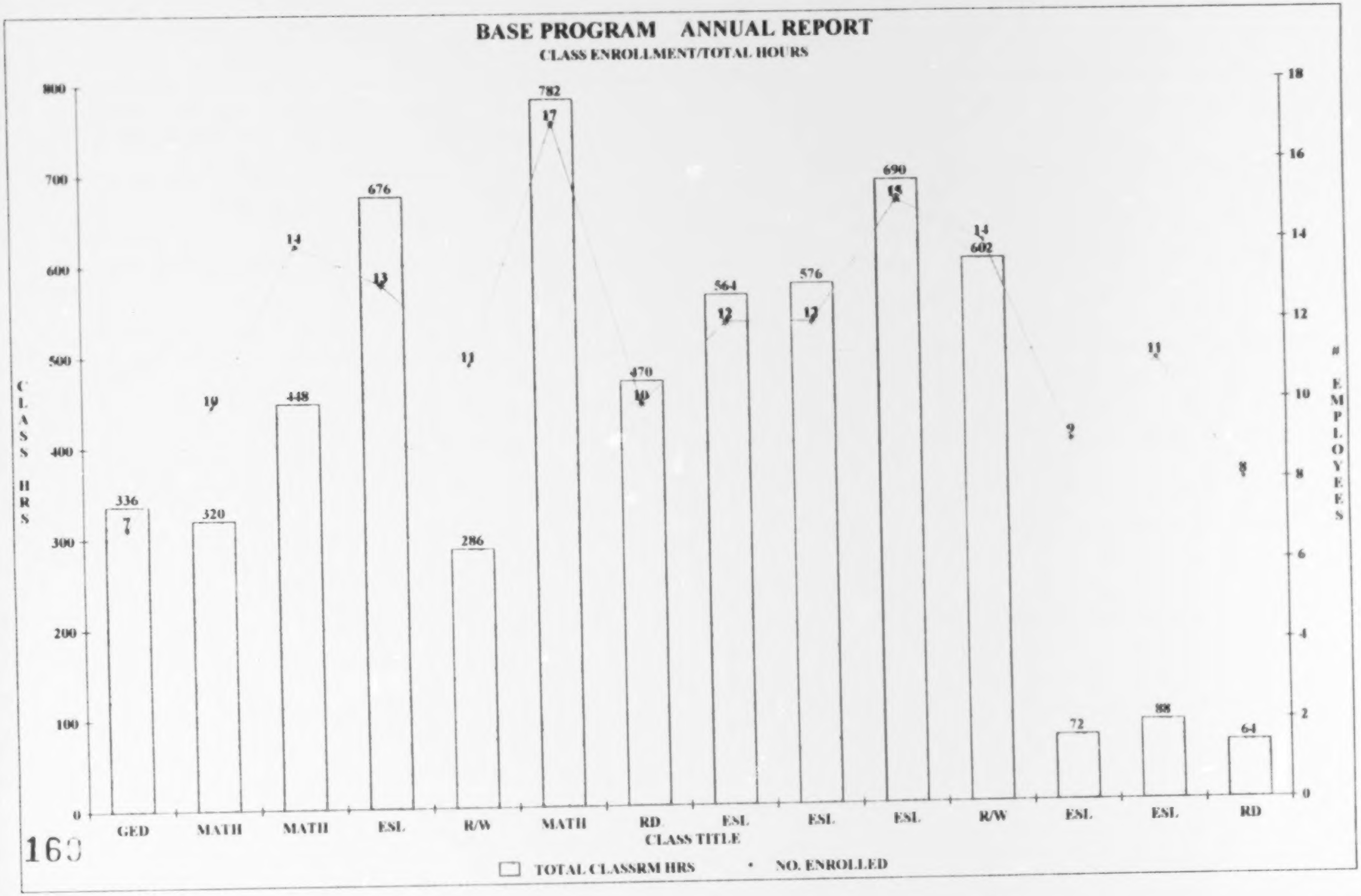
BASE PROGRAM ANNUAL REPORT
LEARNING CENTER CLASSROOM HOURS

167

163

7/20/94

RELIABLE POWER PRODUCTS



BASE PROGRAM ANNUAL REPORT

CLASS ENROLLMENT/TOTAL HOURS

16?

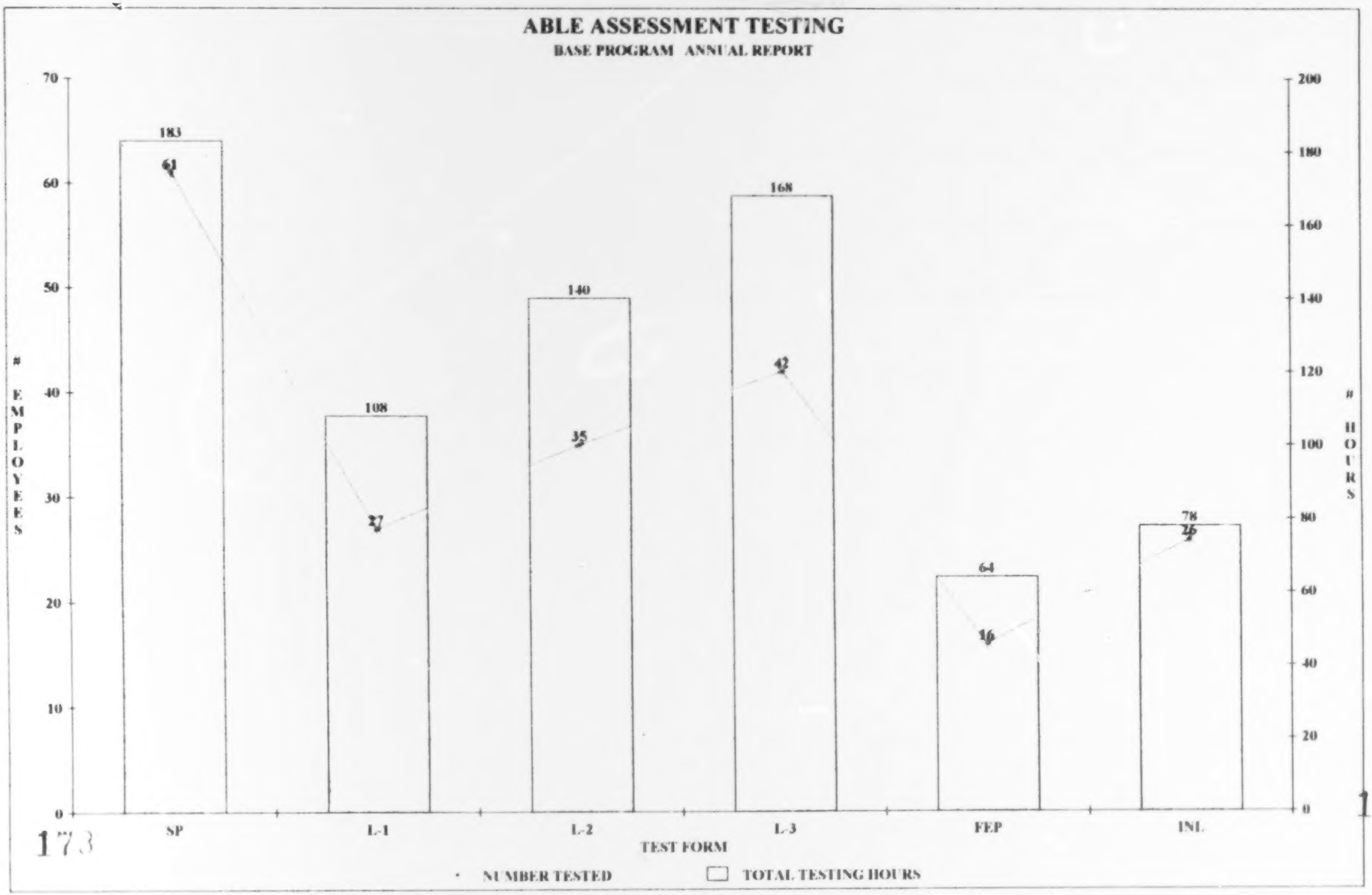
170

1

7/15/94

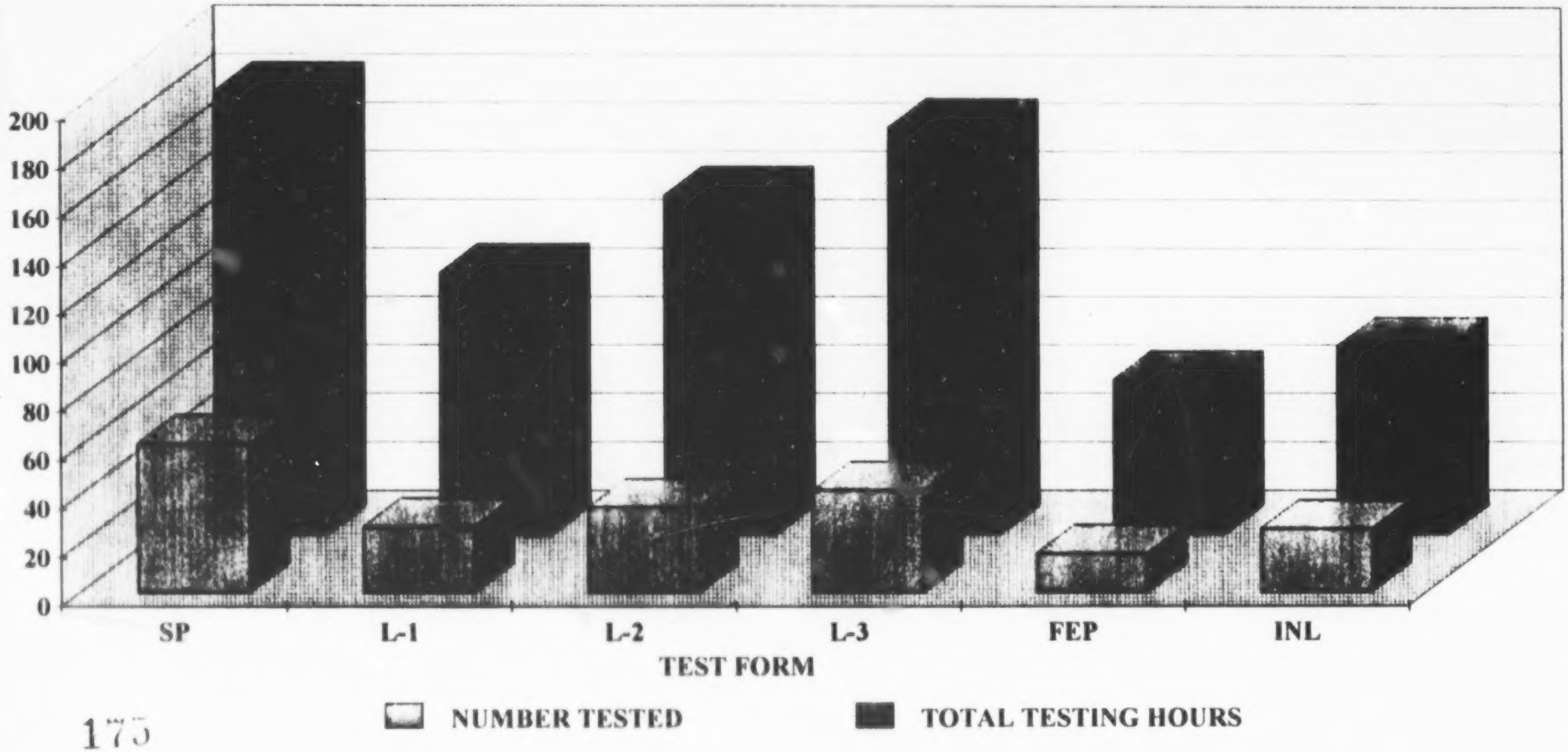
RELIABLE POWER PRODUCTS LEARNING CENTER BASE PROGRAM ANNUAL REPORT

	ABLE ASSESSMENT TESTING		
TEST FORM	NUMBER OF HOURS PER TEST	NUMBER TESTED	TOTAL TESTING HOURS
SPANISH	3	61	**183**
LEVEL 1	4	27	**108**
LEVEL 2	4	35	**140**
LEVEL 3	4	42	**168**
FORMER EMPLOYEES	4	16	**64**
INSTANT LABOR	3	26	**78**
TOTAL		207	741


ABLE ASSESSMENT TESTING
BASE PROGRAM ANNUAL REPORT
# EMPLOYEES
0
10
20
30
40
50
60
70
# HOURS
0
20
40
60
80
100
120
140
160
180
200
183
61
108
27
140
35
168
42
64
16
78
26
SP
L-1
L-2
L-3
FEP
INL
TEST FORM
NUMBER TESTED
TOTAL TESTING HOURS

RELIABLE POWER PRODUCTS

ABLE ASSESSMENT TESTING
BASE PROGRAM   ANNUAL REPORT



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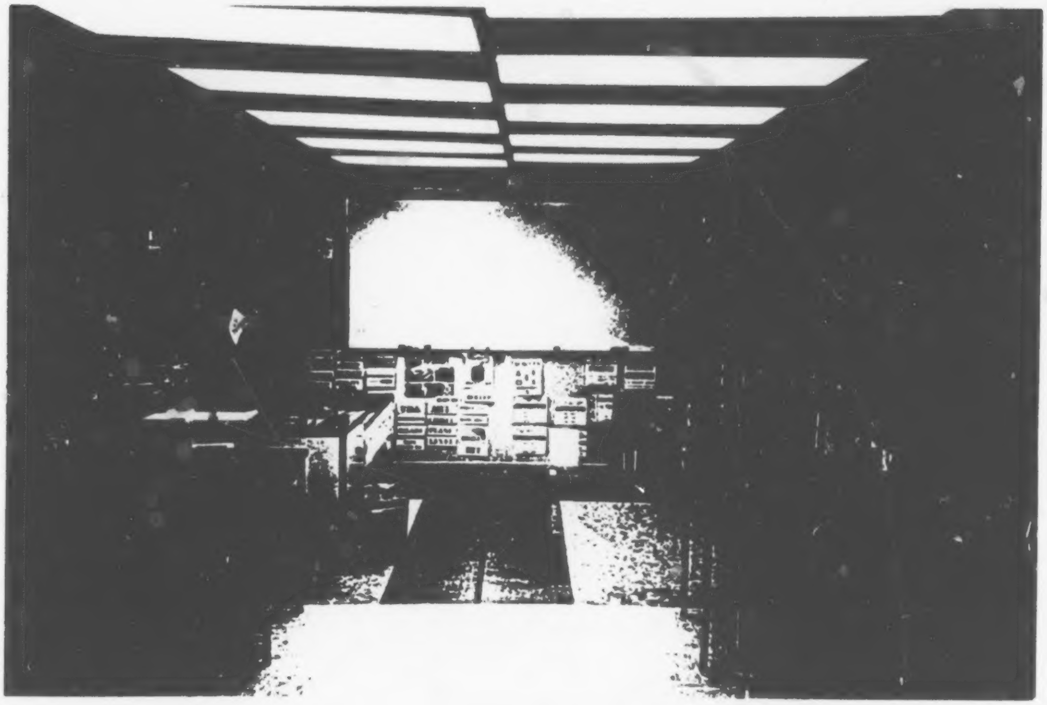
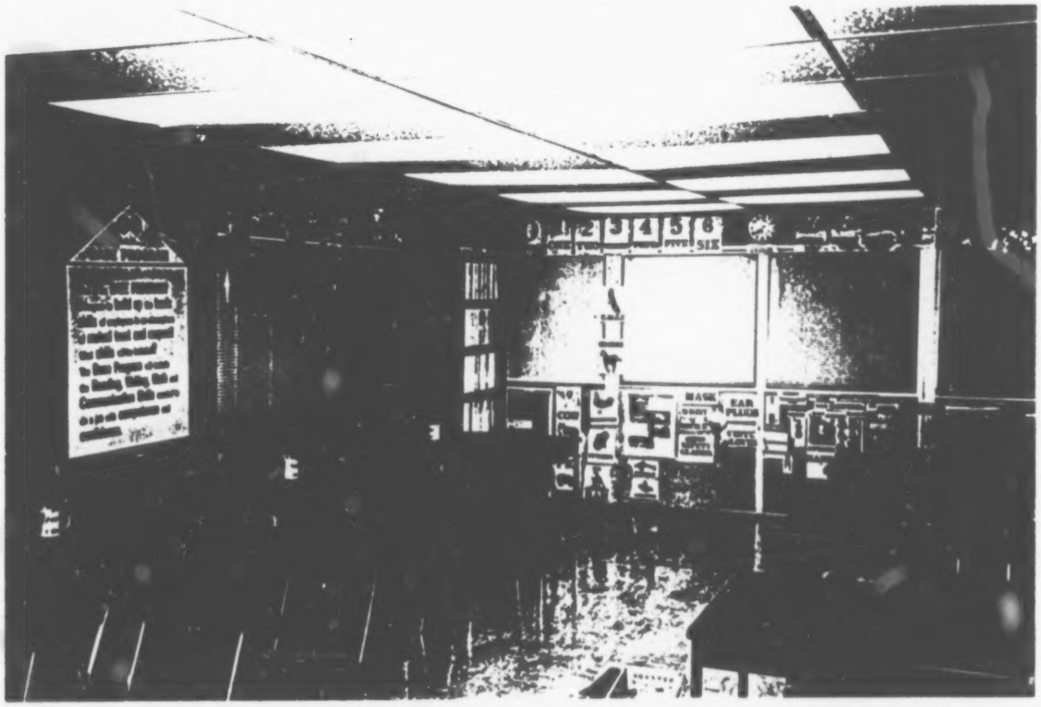
176

7/15/94

RELIABLE LEARNING CENTER



VIEW TOWARD THE FRONT OF THE CLASSROOM



VIEW TOWARD THE BACK OF THE CLASSROOM

FINAL REPORT

WORKPLACE READING & WRITING

COLLEGE OF LAKE COUNTY

6/9/94

COLLEGE OF LAKE COUNTY
Interoffice Memorandum

TO: Diana Bump

FROM: Rosalie Campeau

DATE: June 2, 1994

RE: Final Report for Reading/Writing class at Reliable Power

The eleven students in the class attended on a very regular basis. Four competencies were targeted for the class; these developed following meetings with supervisors and students. A whole language approach was used for the entire class and this was easily adapted to the competencies. One dealt with reading, one with vocabulary, one with writing and one with listening/speaking. The competencies were:

1. To construct meaning and summarize key concepts in company-related material
2. To follow oral instructions to complete a work-related task
3. To use a variety of vocabulary strategies to read and paraphrase company-related materials
4. To write a work-related note to communicate ideas in a logical order

These competencies were rewritten and revised several times during the duration of the class to meet the students' needs. The students all did well on the listening pretest and so no posttest was given. However, two lessons were devoted to this competency because several of the supervisors commented on a need for skill enhancement in this area.

Since the class met once a week for two hours several teaching schedules were used. In come cases, the entire two-hour session was devoted to one lesson; at other times two related lessons or topics were covered in one day's section. The students were enthusiastic and interested in whatever was presented in class.

Several different approaches were used. Among these were language experience, group activities, mapping, anticipation guides, KWL, brainstorming, pairing, journal writing, think aloud, clustering, and freewriting.

A student self evaluation form was filled out by the students and all indicated improved confidence in writing and improved skill development. This improvement was evident in their work and in posttest scores. Teacher observation confirmed this improvement.

Most students could benefit from future classes in writing and reading skill enhancement to refine and develop skills targeted in this class. However, all the students felt they had made progress and most expressed interest in taking other classes either through the company or in the community college setting. As their instructor, I thoroughly enjoyed teaching the class and getting to know the students. I especially enjoyed all that the men taught me about their jobs and I left the class with a positive perspective about their future success on the job.

Four competencies were covered during the reading/writing class at Reliable Power; one dealt with reading, one with writing, one with vocabulary, and one with listening/speaking.

On the listening/speaking competency pretest most students demonstrated mastery, but two lessons were taught to meet the needs resulting from the initial interviews. No posttest was given for this competency.

The emphasis on the class was placed on vocabulary development and writing skills. All students showed improvement in these areas. Both the quality of the work and the time and effort devoted to assignments improved considerably. The posttest results on these competencies were consistent with the improvement shown in class. Three students demonstrated mastery of the writing and vocabulary competencies. Although less time was spent on developmental reading, the whole language approach was used throughout the lessons and the reading posttest showed positive movement toward mastery. In fact, most students did well on the reading pretest, and all showed improvement on the posttest.

Teaching the class was very enjoyable; the students were responsive, erative, and anxious to improve their skills. Although all students oved in all areas, everyone could benefit from further skills enhancement.

Thank you for the opportunity to work with the employees and for the support and cooperation from everyone at the company.

Name: EXAMPLE
First Last

Evaluate progress by writing the dates(s) of assessment in the correct column.

0 = student demonstrates no ability
1 = student demonstrates minimal ability
2 = student demonstrates satisfactory ability
3 = student demonstrates mastery

COMPETENCIES	0	1	2	3
1. To construct meaning and summarize key concepts in company–related materials.				
2. To follow oral instructions to complete a work–related task.				
3. To use a variety of vocabulary strategies to read and paraphrase company–related materials.				
4. To write a work–related note to communicate ideas in a logical order.				
6				
7.				
8.				
9.				
10.				

Comments: ____________________

____

____

BEST COPY AVAILABLE

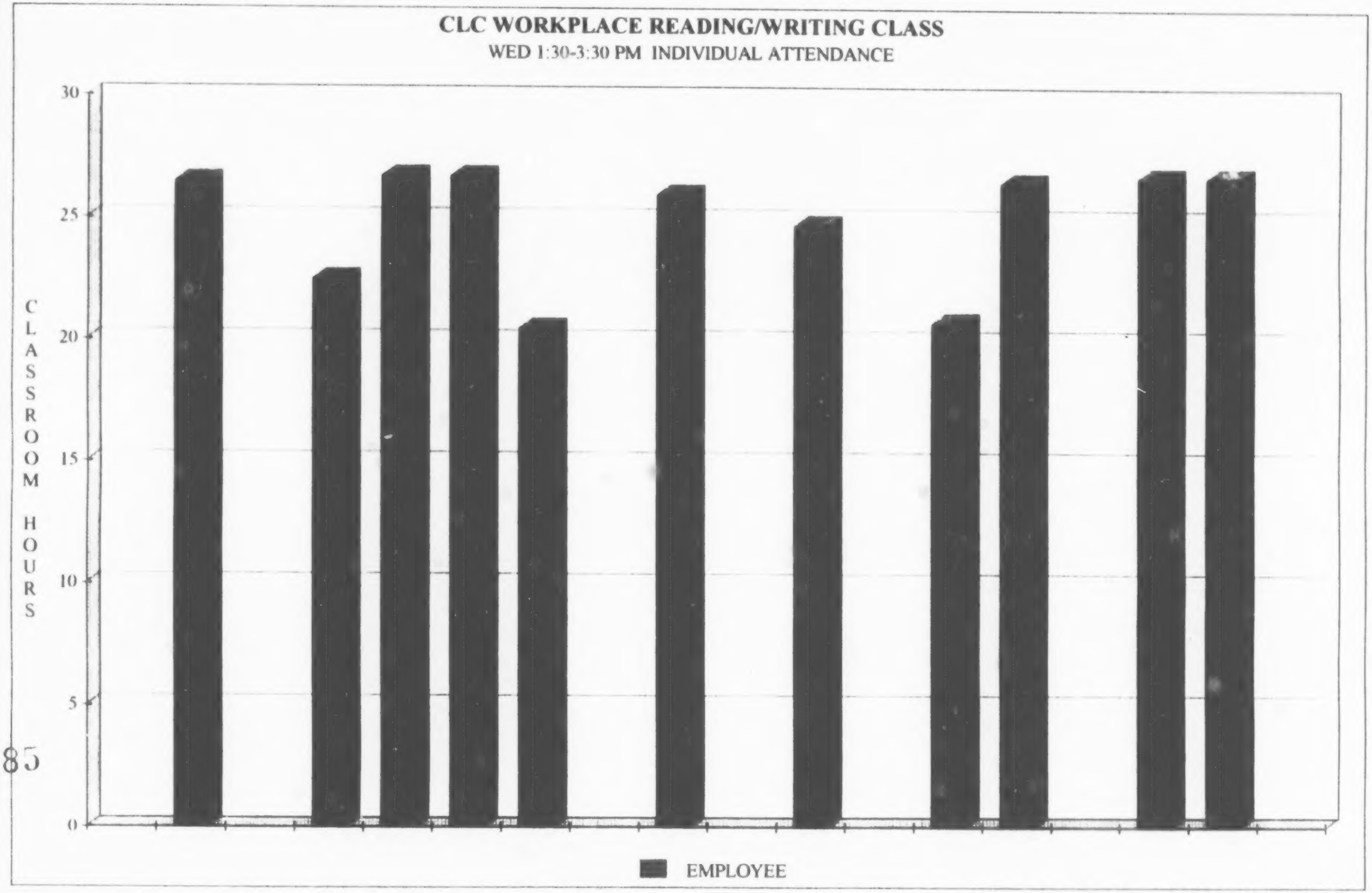
WEDNESDAY 1:30-3:30 PM L[illegible]GE ARTS-CLC ATTENDANCE HOUR

DATE	3/2	3/9	3/16	3/23	3/24	3/25	3/30	4/6	4/13	4/21	4/21	4/27	5/4	5/11	5/18	5/25	TOTAL HRS.	ATTENDANCE %
					Advisement						Advisement							
DEPT.& NAME																		
1651																		
1. CASTILLO, JUAN	2	2	2	2	0.5		2	2	2	2		2	2	2	2	2	26.5	100%
1653																		
2. CURTIS, DARRYL	2	2	0	2	0.5		2	2	2	2		2	0	2	2	2	22.5	84.10%
3. LEWIS, LONNIE	2	2	2	2		0.5	2	2	2	2	0.25	2	2	2	2	2	26.75	100%
4. MCCREE, DARRELL	2	2	2	2		0.5	2	2	2	2	0.25	2	2	2	2	2	26.75	100%
5. MILLER, JAMES	2	0	2	2	0.5		2	2	2	2		2	2	0	0	2	20.5	76.63%
1658																		
6. MCCREE, LARRY	2	2	2	2			2	2	2	2		2	2	2	2	2	26	98.11%
1694																		
7. MITCHELL, DANNY	2	2	2	2		0.5	2	2	0	2	0.25	2	2	2	2	2	24.75	92.52%
1695																		
8. ACEVEDO, VICTOR	2	2	2	2	0.5		0	0	2	2	0.25	2	2	2	0	2	20.75	77.57%
9. FLOR, MIGUEL	2	2	2	2		0.5	2	2	2	2		2	2	2	2	2	26.5	100%
1697																		
10 DIGHERO, CARLOS	2	2	2	2	0.5		2	2	2	2	0.25	2	2	2	2	2	26.75	100%
11. JUARBE, JUAN	2	2	2	2		0.5	2	2	2	2	0.25	2	2	2	2	2	26.75	100%
TOTAL RELIABLE HRS.	22	20	20	22	2.5	2.5	20	20	20	22	1.5	22	20	20	18	22	274.5	93.53% AVG. ATTENDANCE
								RELIABLE CONTRIBUTION/ $15.00 PER HOUR									$4,117.50	

7/18/94

CLC WORKPLACE READING/WRITING CLASS

WED 1:30-3:30 PM INDIVIDUAL ATTENDANCE



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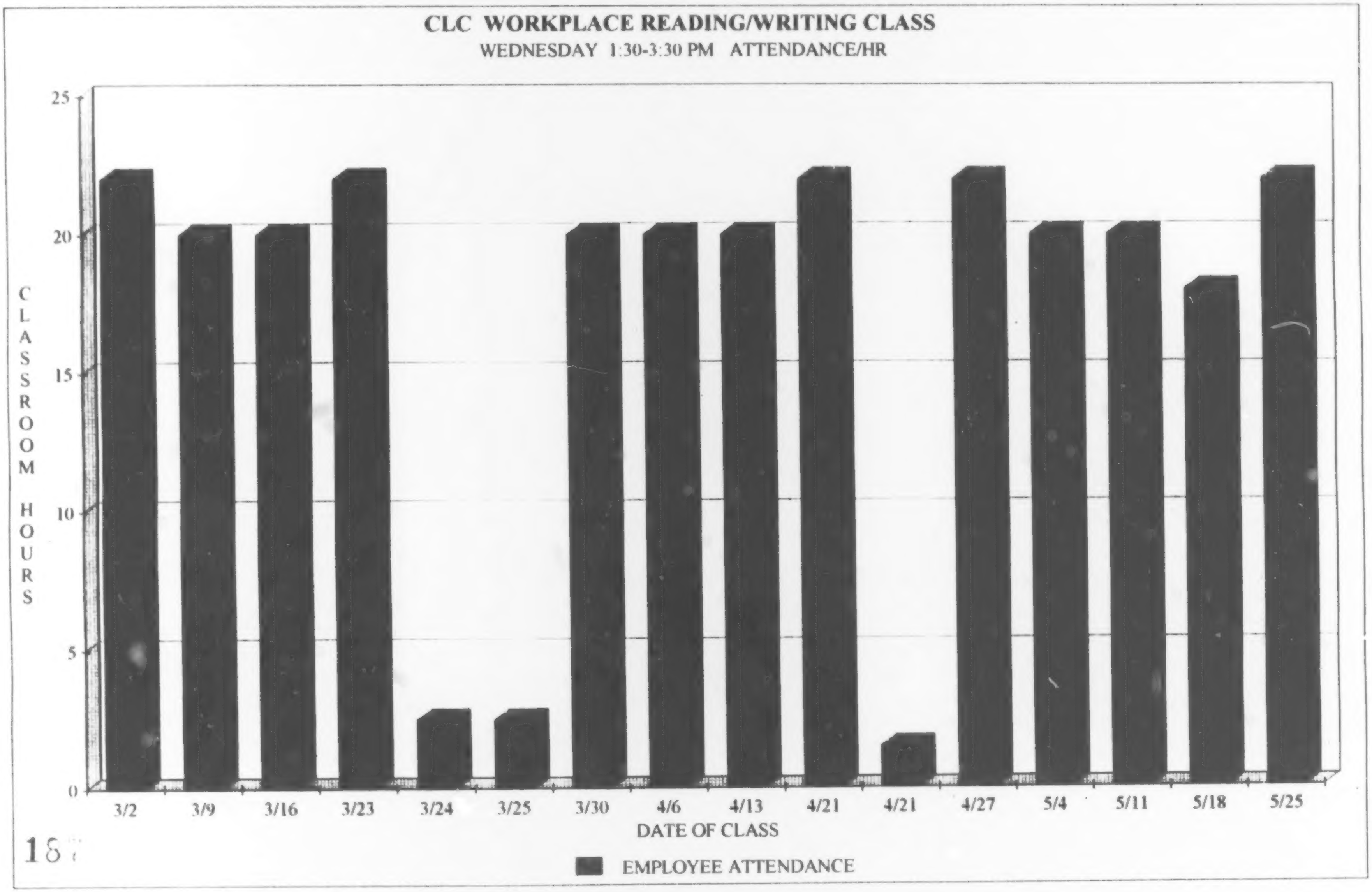
7/21/94

RELIABLE POWER PRODUCTS



CLC WORKPLACE READING/WRITING CLASS

WEDNESDAY 1:30-3:30 PM ATTENDANCE/HR

COLLEGE OF LAKE COUNTY

READING AND WRITING CLASS-1

WORKPLACE COMPETENCIES

1. To construct meaning and summarize key concepts in company related material.

2. To follow oral instructions to complete a work-related task.

3. To use a variety of vocabulary strategies to read and paraphrase company related material.

4. To write a work-related note to communicate ideas in a logical order.

PRE and POST TEST ASSESSMENT LEVELS

0 = Student demonstrates no ability

1 = Student demonstrates minimal ability

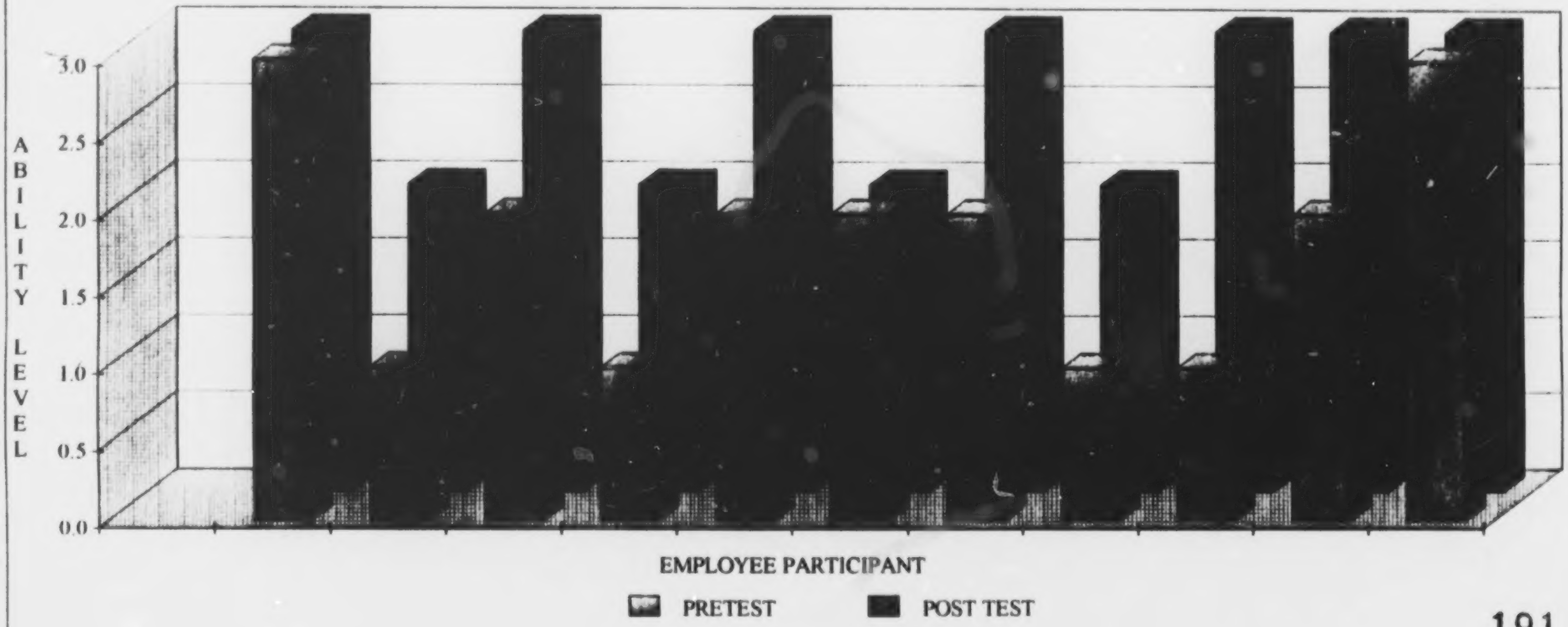
2 = Student demonstrates satisfactory ability

3 = Student demonstrates mastery

COMPETENCY A: TO CONSTRUCT MEANING & SUMMARIZE KEY CONCEPTS/CO. RELATED MATERIAL

WORKPLACE READING AND WRITING CLASS-1

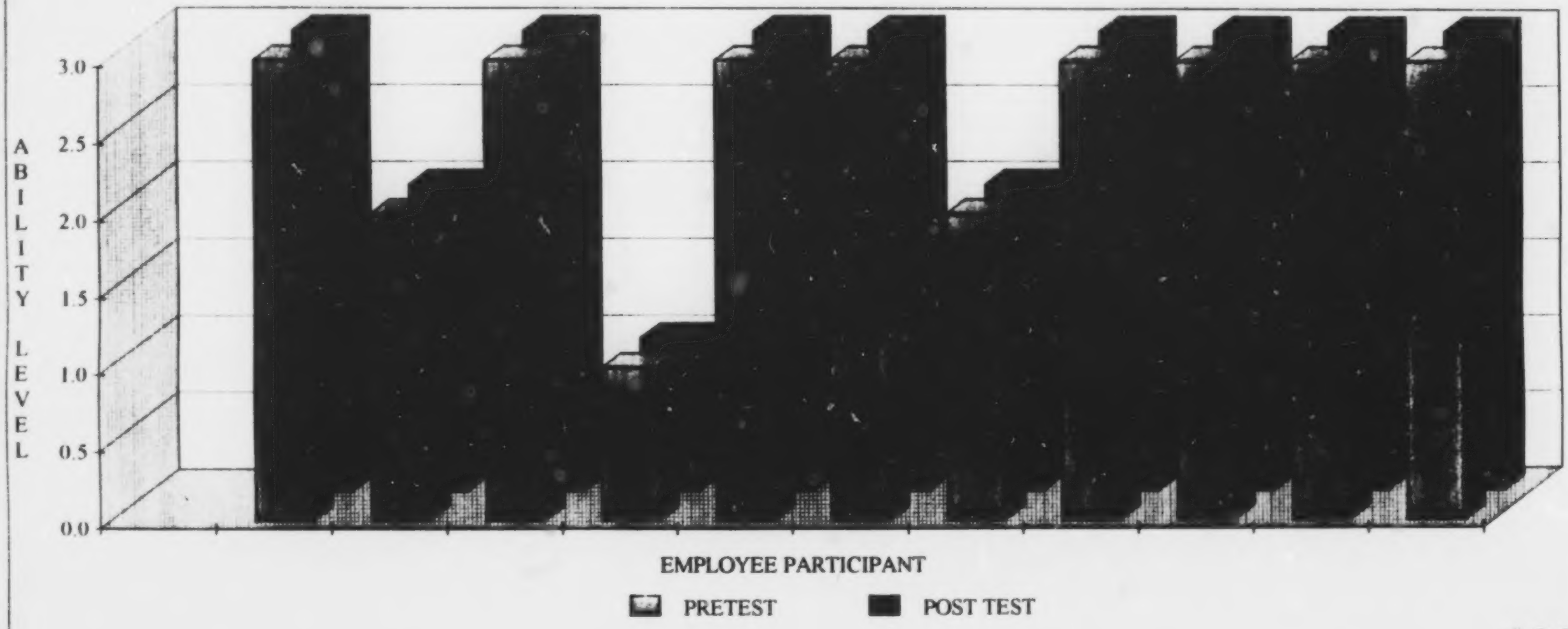
COLLEGE OF LAKE COUNTY-26 HOURS



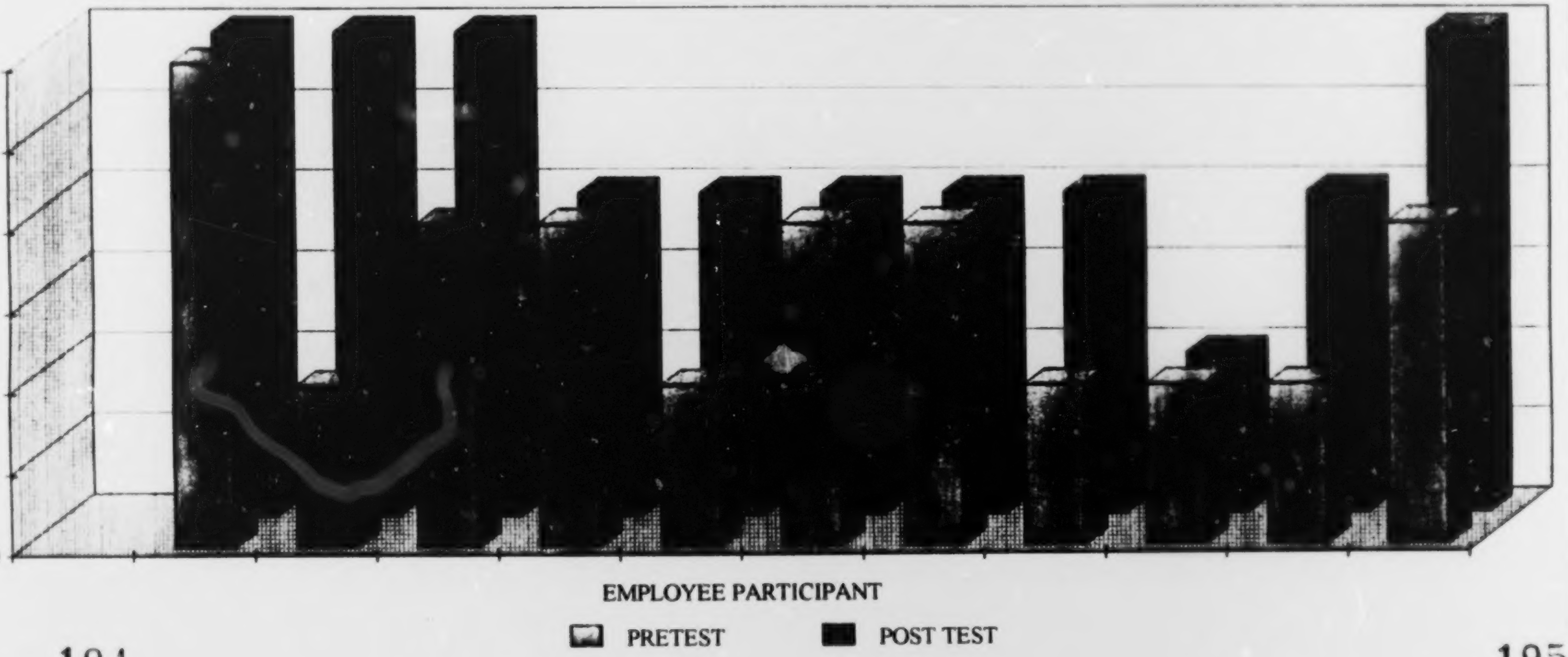
COMPETENCY B: TO FOLLOW ORAL INSTRUCTIONS TO COMPLETE A WORK- RELATED TASK

WORKPLACE READING AND WRITING CLASS-1

COLLEGE OF LAKE COUNTY-26 HOURS



COMPETENCY C: TO USE A VARIETY OF VOCABULARY STATEGIES TO READ & PARAPHRASE COMPANY MATERIAL



WORKPLACE READING AND WRITING CLASS-1

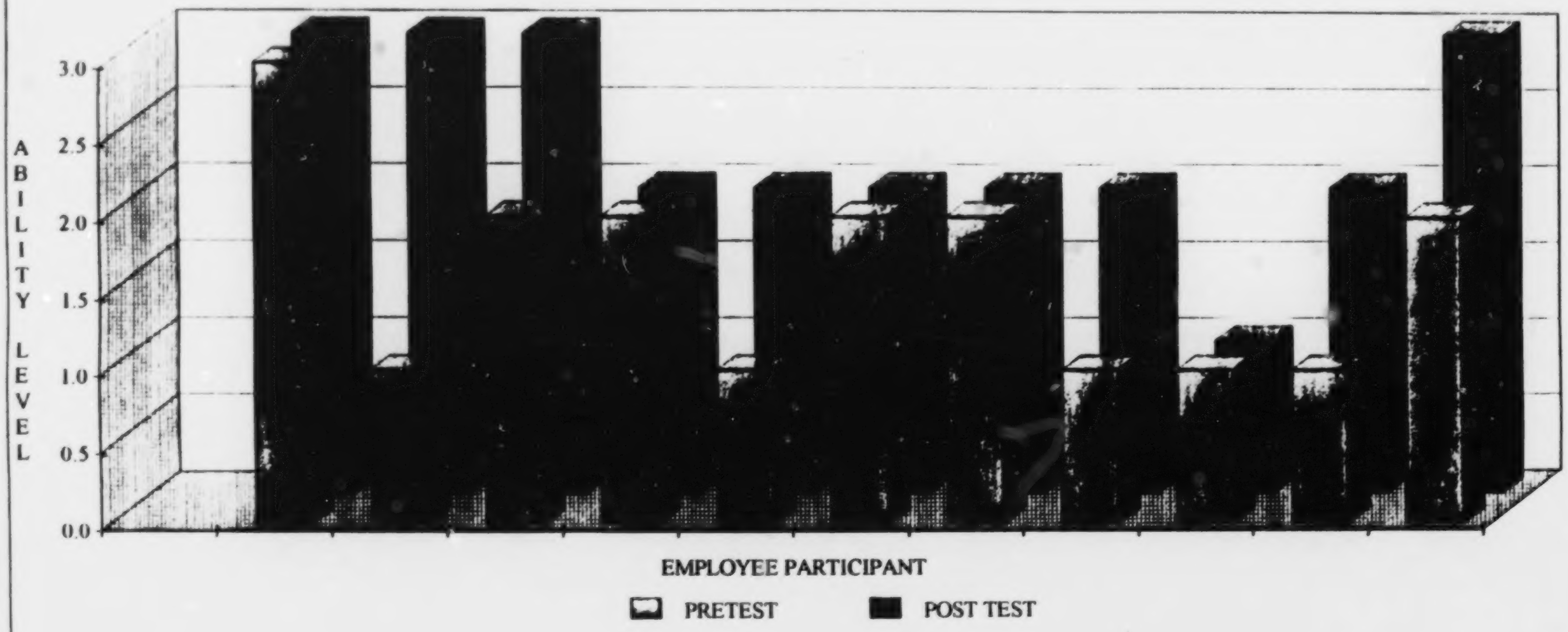
COLLEGE OF LAKE COUNTY- 26 HOURS

7/18/94

COMPETENCY C: TO USE A VARIETY OF VOCABULARY STATEGIES TO READ & PARAPHRASE COMPANY MATERIAL

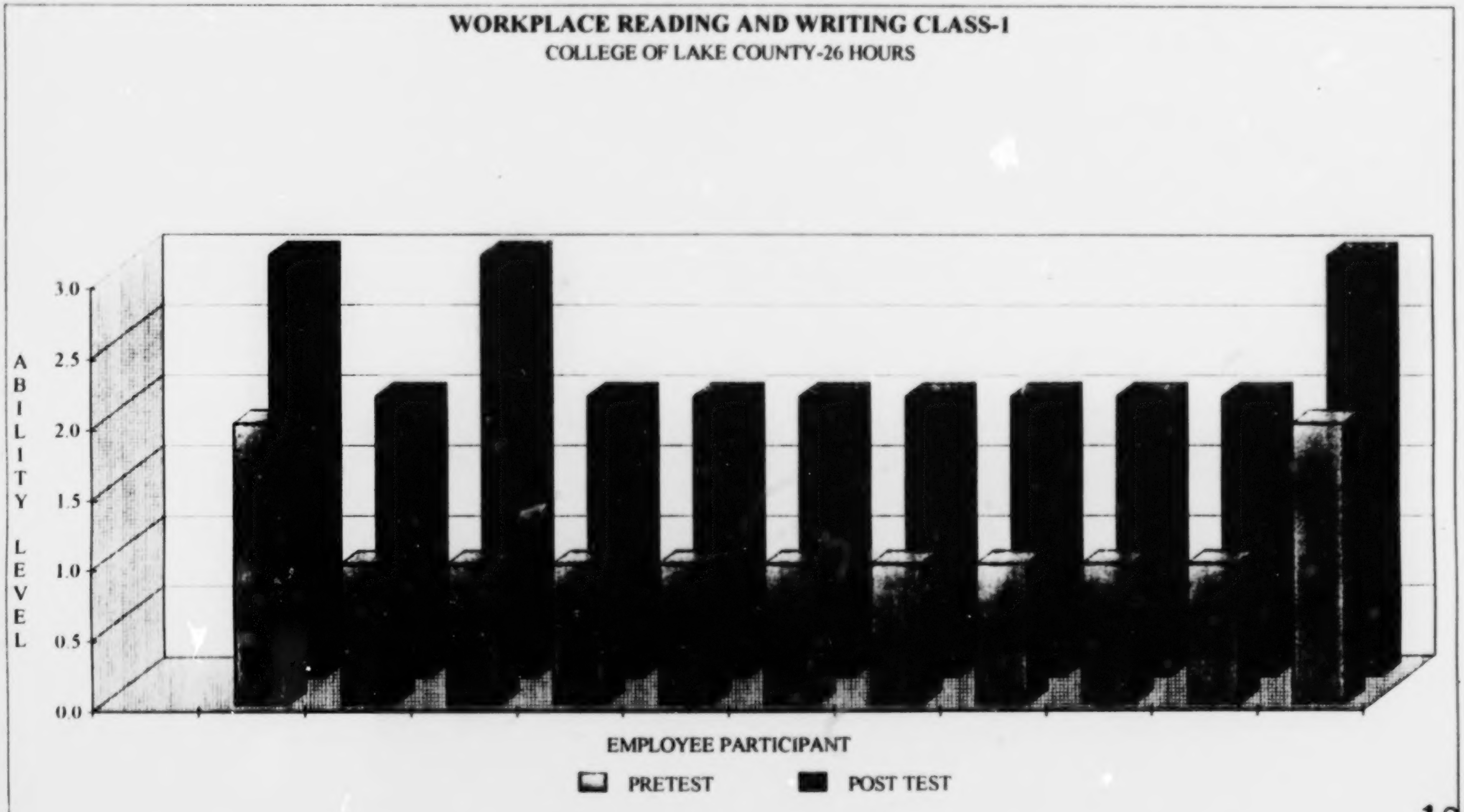
WORKPLACE READING AND WRITING CLASS-1

COLLEGE OF LAKE COUNTY- 26 HOURS



7/18/94

COMPETENCY D: TO WRITE A WORK-RELATED NOTE TO COMMUNICATE IDEAS IN A LOGICAL ORDER



FINAL REPORT

MID-LEVEL MATH
COLLEGE OF LAKE COUNTY

3/25/94

CLASS SUMMARY
RELIABLE POWER
MATH -- 12-2P

The mid-level math class conducted at Reliable Power lasted 16 weeks for 32 contact hours. The curriculum was developed to include fractions, decimals, weights, measures, and percents after surveying the needs of the company and students. The attached competencies were developed based on those needs.

The class consisted of fourteen students. All but two were able to grasp the concepts presented. Of the two students experiencing difficulty, one cannot manage fractions, probably due to his lack of multiplication and division skills. The other student was able to compute fractions, but much slower than the rest of the class. In both cases, the two students were able to do decimals successfully.

Lessons were presented in such a manner as to show a correlation between concepts and real-world applications. For example, when using measurement, it was demonstrated that rulers are designed as fractions of an inch and/or tenths of an inch. Students brought samples of work forms they use with fractions, decimals, and measurement.

Class discussions included how fractions are used to measure depths, widths and lengths of machine parts. Decimals are also used for measurement but at Reliable are read as thousandths of an inch. Percents were also discussed in terms of percentage withheld from a paycheck and percentages of unacceptable production.

Students appeared comfortable and relaxed with the content and presentation of the class. Examples of comments are as follows:

> "No one ever told me to count the number of hatches on a ruler to find the fraction."
>
> "I get it now, the bottom number is how many parts you cut the pie into."
>
> "Why didn't anyone explain it this way twenty years ago?"
>
> "It's really OK to do it my way if I get the right answer?"
>
> "Now I can pass my supervisor's math test."

Post-testing was conducted on the last day of class. The ABLE test was used in order to compare results to the pre-testing. The results showed a gain of 2.34 grade levels. The gain should be considered exceptionable because there were only 32 student/teacher contact hours.

Working at Reliable has been a pleasure. The students and administrative staff are friendly, helpful, and more than willing to do anything necessary to ensure the success of their education program.

MID-MATH CLASS
RELIABLE POWER
12:00-2:00 PM

NAME	Num Op Pre	Pro Sol Pre	Total Pre	Num Op Post	Pro Sol Post	Total Post	Gain/Loss Percent/G.E.
Bertocchini, C	15	10	25/7.4	11	19	31/8.0	+.24/+ .6
Blanco, A	13	17	30/8.0	19	16	35/8.8	+.17/+ .8
Diamond, D	13	18	31/8.2	15	52	52/9.9	+.68/+1.7
Kerr, D	15	12	27/7.7	14	16	30/8.0	+.11/+ .3
Kolief, T	7	6	2/4.0				
Lepek, D	15	17	32/8.3	32	29	89/PHS	+1.78/+4.6
Marziliano, D	19	19	38/7.2	25	23	68/11.0	+ .79/+3.8
McDonald, Latonya	16	15	31/8.2	28	20	68/11.0	+1.19/+2.8
Mitchell, Vincent	17	20	37/7.0				
Slaski, Joe	12	18	30/8.0	34	23	57/PHS	+.90/+4.9
Stewart, Dorothy	17	22	39/7.4	30	26	56/11.7	+.44/+4.3
Velez, John	26	16	42/9.9	36	14	50/11.5	+.19/+1.6
Walls, Ethel	16	16	32/8.3	24	15	39/9.4	+.22/+1.1
Woodard, Willie	19	21	40/7.5	22	6	28/5.9	-.30/-1.6
					Avg. Gain/Loss		+.58/+2.34

CLASS SUMMARY
RELIABLE POWER
MATH -- 3:30-5:30

The curriculum developed for the evening math class was the same as that of the afternoon session. The concepts included, fractions, decimals, weights, measures and percents. The students moved at a slightly slower pace, but were no less enthusiastic.

As with the afternoon class, the lessons were developed to correlate with workplace activities. Discussions centered on classroom skills transferring to the job.

It is felt that the students have a good grasp of the material presented and are competent in those skills. Only one student seemed unable to be successful and it is felt that this had more to do with his history of academic failures as opposed to his inability to learn. The student is very young and still views classroom activities as an exercise in frustration.

Sample student comments are as follows:

"I finally understand fractions. They aren't so hard."

"This isn't bad, I really thought it'd be boring."

"Once you learn the steps, it's easy."

The students in this class were also post-tested using the ABLE to compare their pre- and post-test scores. Again, a gain of 1.16 grade levels was shown. This gain is also remarkable because the class moved at a slower pace and therefore covered less material.

Once again, the students at Reliable are delightful and a pleasure to teach.

MID-MATH CLASS
RELIABLE POWER
3:30-5:30 PM

NAME	Num Op Pre	Pro Sol Pre	Total Pre	Num Op Post	Pro Sol Post	Total Post	**Gain/Loss Percent/G.E.**
Broughton, K	15	19	34/6.6	25	23	48/9.0	**+.41/+2.4**
Carney, F	25	10	35/8.8	35	13	48/11.0	**+.37/+2.2**
Deleo, A	12	17	29/7.5	16	16	32/8.6	**+.10/+1.1**
Green, C	12	14	26/5.6	20	18	38/7.2	**+.46/+1.6**
Johnson, F	7	13	20/5.4	11	15	26/6.7	**+.30/+1.3**
McGuire, A	8	5	13/4.0	13	6	19/4.8	**+.46/+ .8**
Pentimone, C	16	15	31/8.2	26	12	38/9.2	**+.23/+1.0**
Pierchala, G	20	21	41/7.7	26	26	52/10.0	**+.27/+2.3**
Rodriquez, J	10	14	24/5.4	10	5	15/4.3	**-.38/-1.1**
Turnipseed, R	9	12	21/5.0	11	10	21/5.0	-- / --
					Avg. Gain/Loss		**+.22/+1.16**

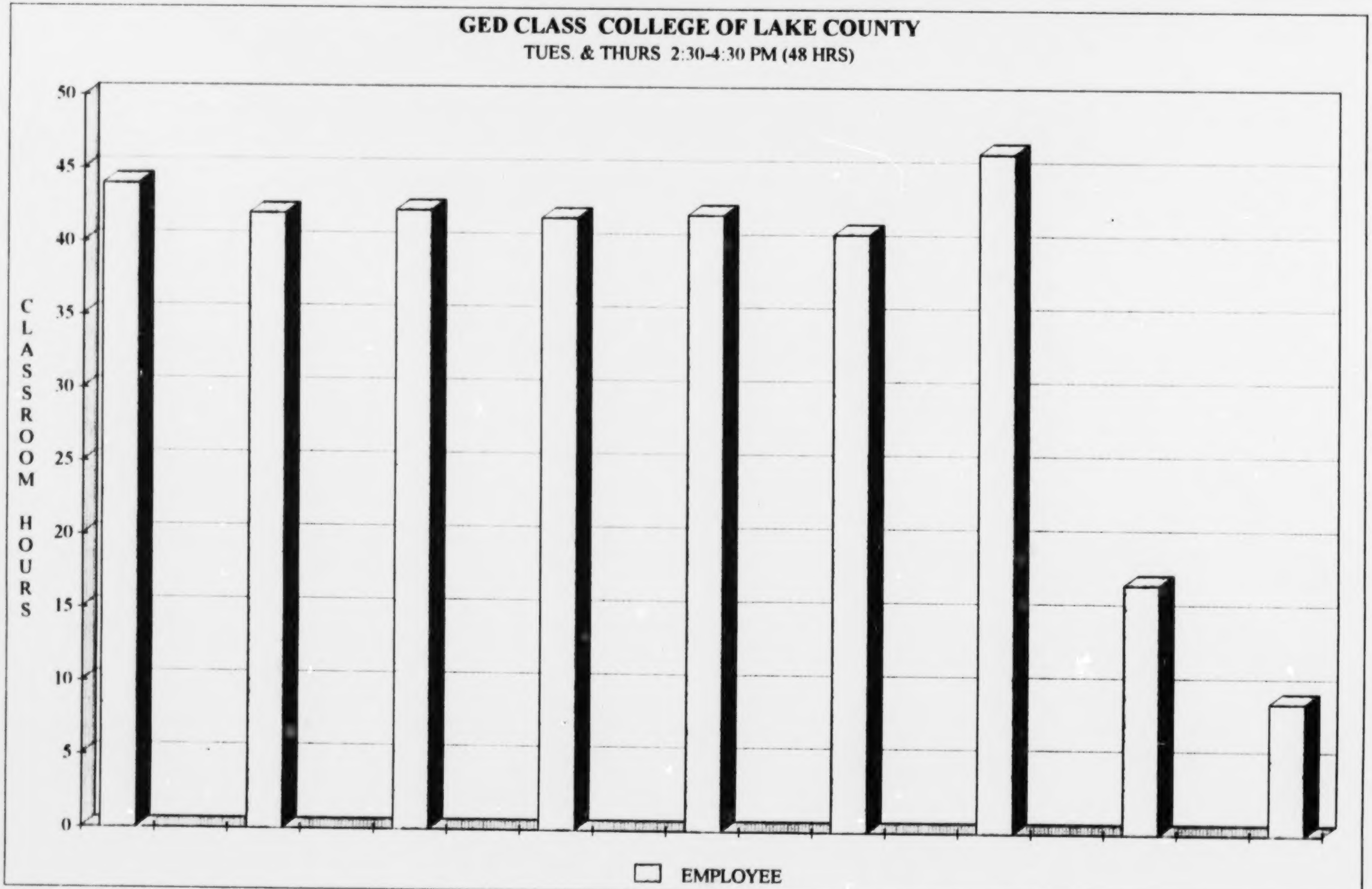
TUESDAY 12:00-2:00 PM MATH - C. ATTENDANCE/HOUR FINAL REPORT

DATE:	10/26/93	11/2	11/9	11/15	11/16	11/23	11/30	12/7	12/14	1/4/94	1/11	1/18	1/25	2/1	2/8	2/15	2/22	2/28		TOTAL HRS.	ATTENDANCE %
DEPT. & NAME																					
1651																					
1. JOE SLASKI	2	2	2	0.5	2	2	2	2	2	2	2	2	2	2		2	2	2		32.5	100%
1653																					
2. CARMELLA BERTOCCHINI	2	2	2	0	2	2	2	2	2	2	2	2	2	2	C	2	2	2		32	98.50%
3. ALBERT BLANCO	2	0	2	0.5	2	2	2	2	2	2	2	2	2	2	L	2	2	2		30.5	93.80%
1655															A						
4. DEE LEPEK	2	2	2	0.5	2	2	2	2	2	2	2	2	2	2	S	2	2	2		32.5	100%
5. LATONYA MCDONALD	2	2	2	0.5	2	2	2	2	2	2	2	2	2	2	S	2	2	2		32.5	100%
1657																					
6.DOROTHY STEWART	2	2	2	0.5	2	2	2	2	0	2	2	2	2	2	C	2	2	2		30.5	93.80%
1658															A						
7. TED KOLIEF	2	2	2	0.5	2	2	2	0	2	2	2	2	2	2	N	0	2	0		26.5	81.50%
8. DIANE MARZILIANO	0	0	2	0.5	2	2	2	0	0	2	0	0	2	2	C	2	2	2		20.5	63.07%
1694															E						
9. DOLORES DIAMOND	2	2	2	0.5	2	2	2	2	0	2	2	2	2	2	L	2	2	2		30.5	93.80%
10. DICIE KERR	2	2	2	0.5	2	2	2	2	0	2	0	2	2	2	E	2	2	2		28.5	87.69%
1695															D						
11. JOHN VELEZ	2	2	2	0.5	2	2	2	2	2	2	2	2	2	2		2	2	2		32.5	100%
1697																					
12. VINCENT MITCHELL	2	2	2	0.5	2	2	2	2	2	2	2	2	2	2		2	2	0		30.5	93.80%
13. ETHEL WALLS	0	2	2	0	2	2	2	2	0	2	2	2	2	2		2	2	2		28	86.15%
14. WILLIE WOODARD	2	2	2	0.5	2	2	2	2	2	0	0	2	2	0		2	2	2		26.5	81.50%
TOTAL RELIABLE HOURS:	24	24	28	6	28	28	28	24	18	26	22	26	28	26	0	26	28	24		414	90.98%
												RELIABLE CONTRIBUTION/$15.00 PER HOUR									$6,210.00

FINAL REPORT

GED PREPARATION
COLLEGE OF LAKE COUNTY

INDIVIDUAL ATTENDA. .E-FINAL REPORT



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7/18/94

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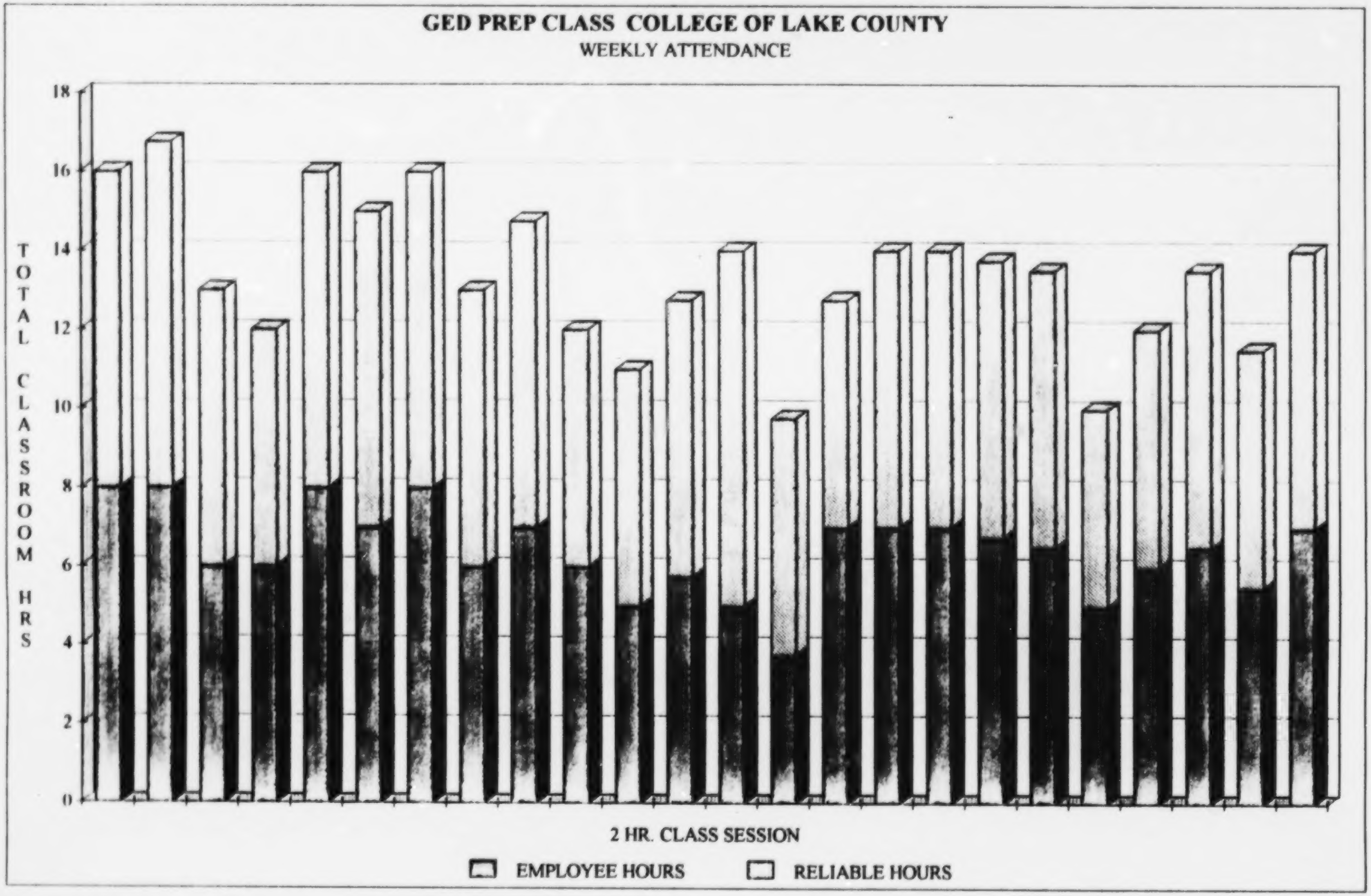
CLASS ATTENDANC . NAL REPORT



RELIABLE POWER PRODUCTS
GED Class Summary

The Reliable Power Products GED class ran four hours a week for twelve consecutive weeks. The original class roster listed nine students. One student's employment was terminated by the company and one student dropped out during the sixth week due to family constraints on his time. The remaining seven students attended at least 85% of the time. The average student attendance was 89%.

During the twelve weeks, the instruction emphasized mathematics, reading comprehension, critical thinking and writing skills. The US and Illinois Constitution tests were also given.

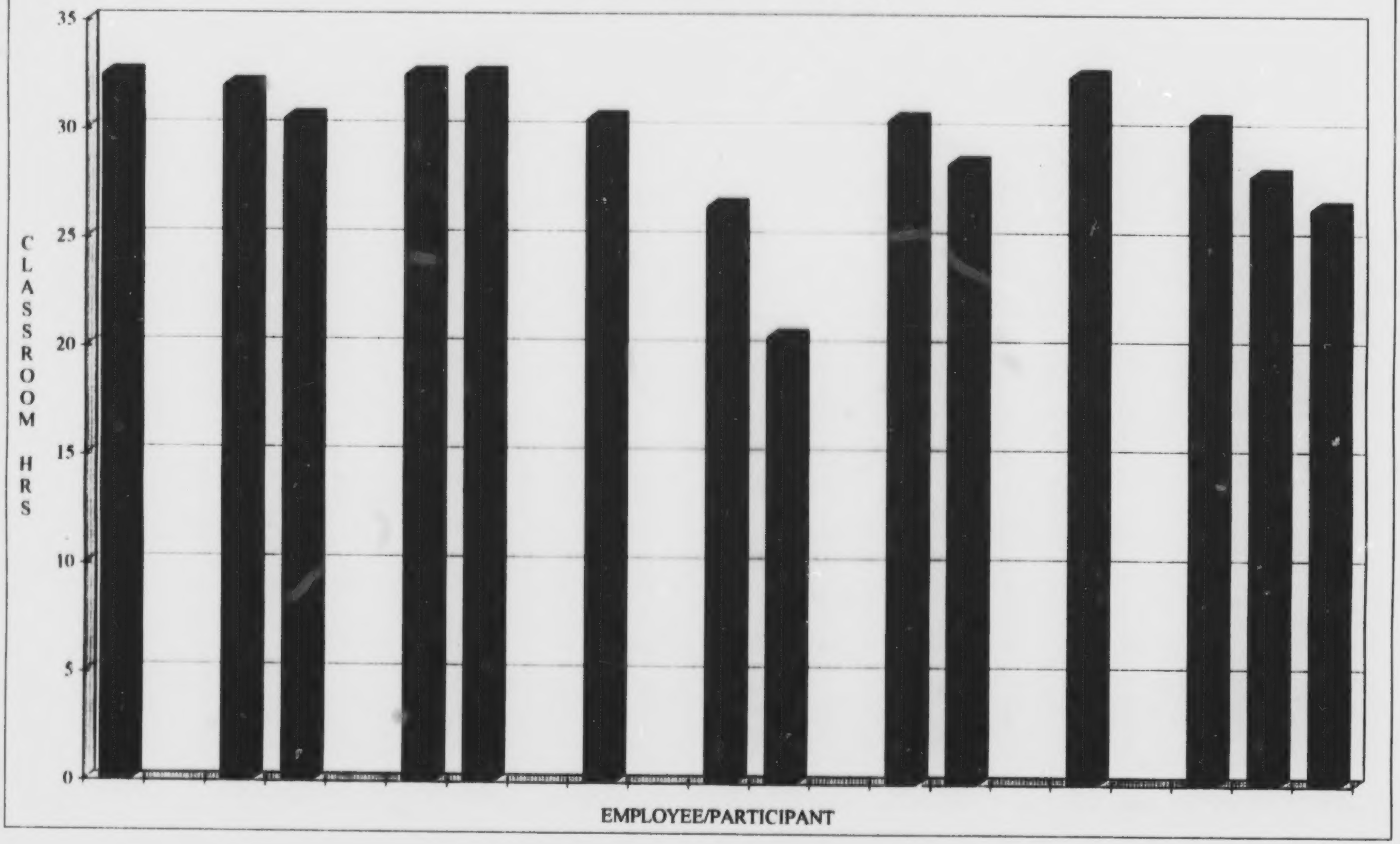
Of the seven remaining students, four should have no problems successfully passing the GED, one student may have some problems and two students will probably not be successful. The students who would have the most difficulty passing the GED are ESL students who have not yet mastered the intricacies of the English language. They read slowly and have trouble expressing their thoughts on paper.

It has been a pleasure teaching at Reliable Power. The support staff and students are friendly and helpful. The classroom is bright, open and conducive to learning. It is evident that Reliable supports and encourages participation in its educational program.

Anne L. Hance

COLLEGE OF LAKE OF LAKE COUNTY MATH

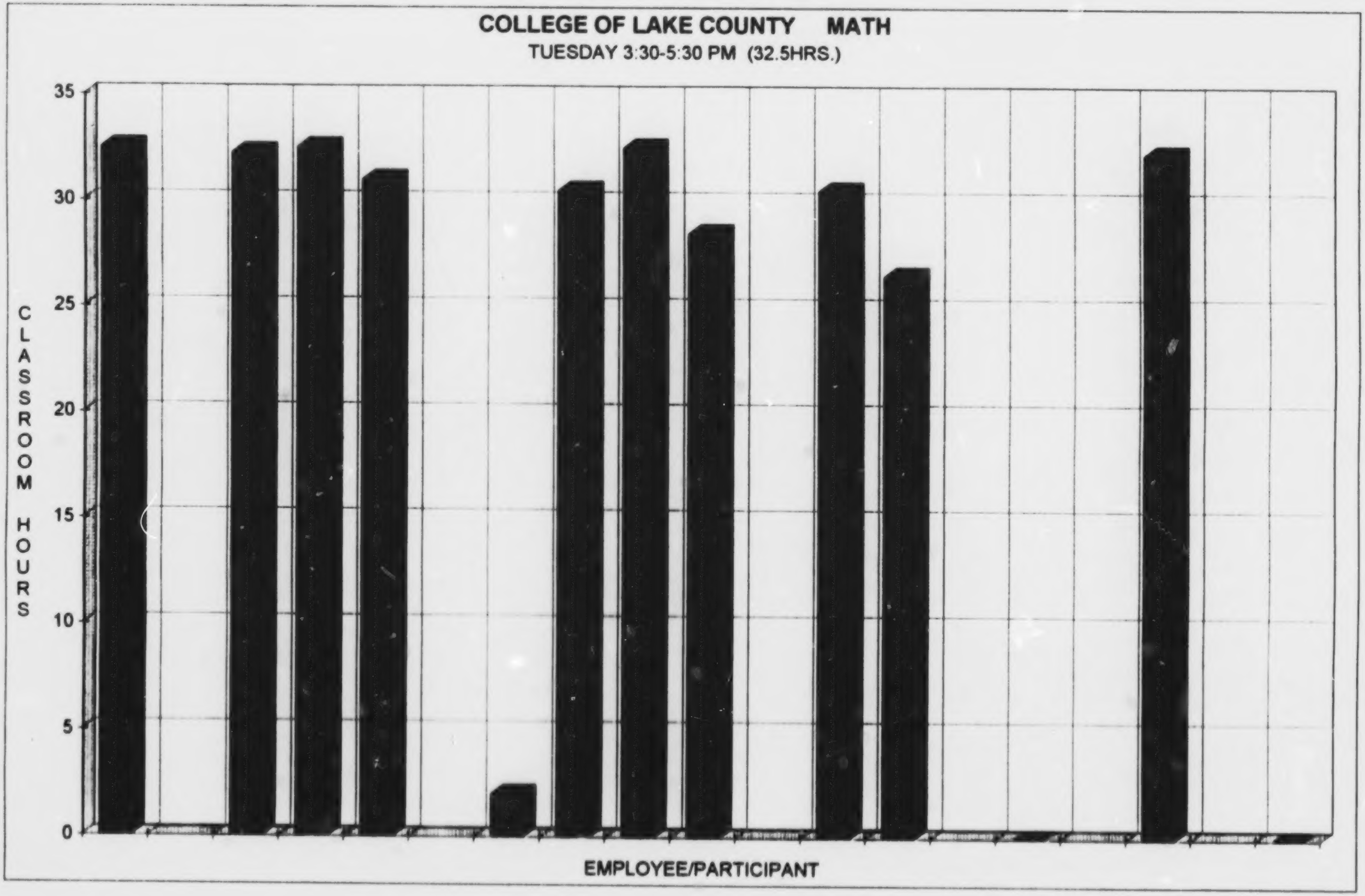
TUESDAY 12:00-2:00 PM (32.5 HRS.)



TUESDAY 3:30-5:30 PM MATH(CLA TENDANCE/HOUR FINAL REPORT

DATE	10/28/93	11/4	11/11	11/15	11/16	12/2	12/9	12/14	1/4/94	1/11	1/18	1/25	2/1	2/8	2/15	2/22	2/28	3/1	TOTAL HRS.	ATTENDANCE %
DEPT. & NAME																				
1651N																				
1. GEORGE PIERZCHALA	2	2	2	0.5	2	2	2	2	2	2	2	2	2		2	2	2	2	32.5	100%
1653N														C						
2. KENNETH BROUGHTON JR.	2	2	2	0.5	2	2	2	1.75	2	2	2	2	2	L	2	2	2	2	32.25	99.20%
3. FLOYD CARNEY	2	2	2	0.5	2	2	2	2	2	2	2	2	2	A	2	2	2	2	32.5	100%
4. FLOYD JOHNSON	2	2	2	0.5	2	2	2	2	0.75	2	2	2	2	S	1.75	2	2	2	31	95.38%
1655N														S						
5. LUTHER DANIEL	2	EMPLOYMENT TERMINATED 11/1/93							0	0	0	0	0		0	0	0	0	2	
6. ARTHUR MCGUIRE	2	2	2	0.5	2	2	2	2	2	2	2	2	2	C	2	0	2	2	30.5	93.84%
7. CINDY PENTIMONE	2	2	2	0.5	2	2	2	2	2	2	2	2	2	A	2	2	2	2	32.5	100%
8. RONNIE TURNIPSEED	2	2	2	0.5	2	2	2	0	2	2	2	2	2	N	0	2	2	2	28.5	87.69%
1658N														C						
9. TONY DELEO	2	2	2	0.5	2	2	2	2	2	2	2	2	2	E	2	0	2	2	30.5	93.84%
10. JOSE RODRIQUEZ	2	2	2	0.5	2	2	2	2	2	2	0	2	2	L	2	0	2	0	26.5	81.53%
1689N														E						
11. C.L. DALE	DID NOT PARTICIPATE				0	0	0	0	0	0	0	0	0	D	0	0	0	0	0	
1694N																				
12. CARRIE GREEN	2	2	2	0.5	2	2	2	2	2	2	2	2	2		2	1.75	2	2	32.25	99.20%
1695N																				
13. BARRY ALVIS	DID NOT PARTICIPATE					0	0	0	0	0	0	0	0		0	0	0	0	0	
TOTAL RELIABLE HOURS	22	20	20	5	20	20	20	17.75	18.75	20	18	20	20	0	17.75	13.75	20	18	311	95.06%
												RELIABLE CONTRIBUTION/$15.00 PER HOUR								$4,465.00

RELIABLE POWL. . RODUCTS



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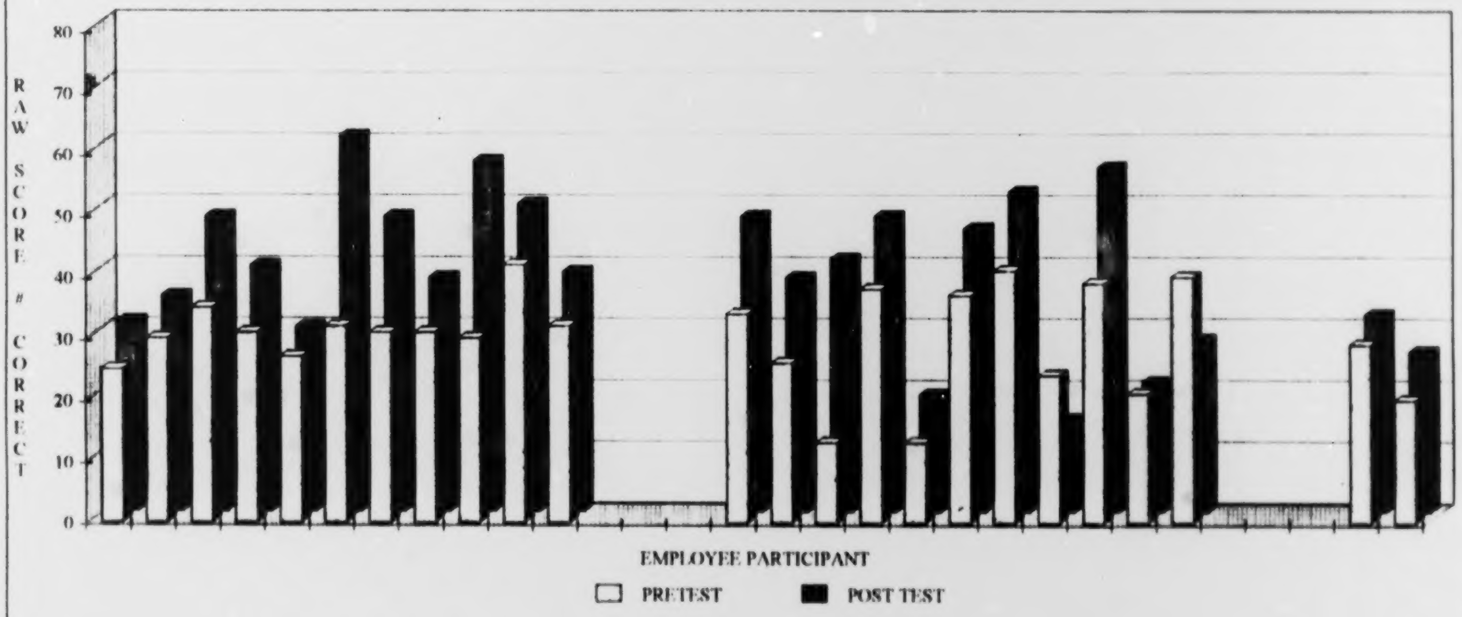
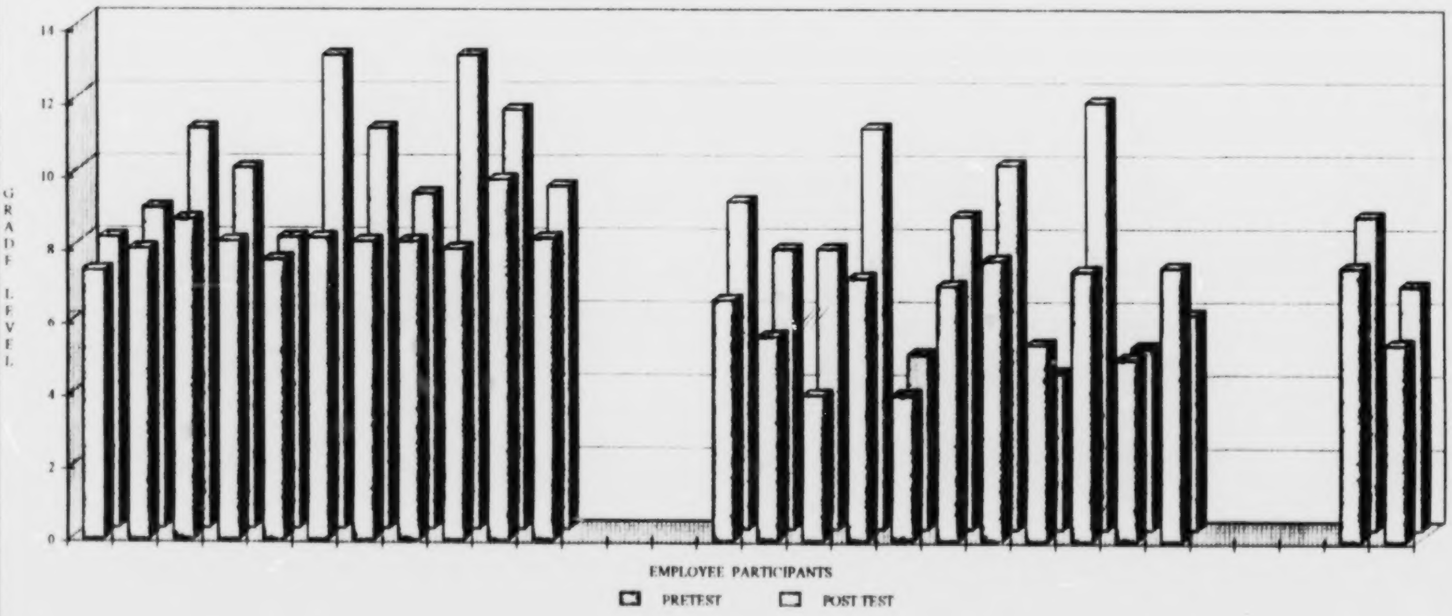
COMPARISON: ABLE MATH RAW SCORES

CHANGE AFTER 32 HRS. INSTRUCTION



COMPARISON: ABLE GRADE LEVEL MATH SCORE

CHANGE AFTER 32 HRS. INSTRUCTION



7/18/94

RELIABLE LEARNING CENTER C[illegible] CLASS HOURLY ATTENDANCE

DATE	8/31	9/2	9/7	9/9	9/14	9/16	9/21	9/23	9/28	9/30	10/5	10/7	10/12	10/14	10/19	10/21	10/26	10/28	11/2	11/4	11/9	11/11	11/16	11/18	TOTAL HRS.	ATTENDANCE %	STATUS
NAME																											
1. CLEGER, JUAN	2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	44	92%	PASSED
2. DIGHERO, CARLOS	2	2	0	0	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	42	88%	
3. FONTELA, ED	2	2	1	2	2	2	2	1	2	2	0	1.75	2	0	2	2	2	2	1.50	0	2	2	2	2	42.25	88%	
4. JUARBE, JUAN	0	2	2	2	2	2	2	2	1.75	2	1	2	2	1	2	2	2	2	2	2	2	2	0	2	41.75	87%	
5, MILLER, DAVID	2	2	2	2	0	2	2	2	2	2	2	2	2	1.75	1	2	2	1.75	2	0	2	2	1.5	2	42	88%	PASSED
6. PIERZCHALA, CHESTER	2	1.75	2	2	2	2	2	2	1	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	40.75	85%	PASSED
7. THOMAS, JULIA	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1.75	2	2	2	2	2	2	1.5	2	2	46.25	96%	
																										AVG. 89%	
8. PEREZ, ANDRE	2	2	2	0	2	2	2	0	2	0	2	1	DROPPED CLASS												17		
9. ROBLES, ERNESTO	2	1	2	2	2	EMPLOYMENT TERMINATED 9/20/93																			9		
TOTAL ED. HRS.	16	16.75	13	12	16	15	16	13	14.75	12	11	12.75	13	9.75	12.75	14	14	13.75	13.5	10	14	13.5	11.5	14	322		
EMPLOYEE HRS	8	8	6	6	8	7	8	6	7	6	5	5.75	5	3.75	7	7	7	6.75	6.5	5	6	6.5	5.5	7	153.75		
RELIABLE HRS.	8	8.75	7	6	8	8	8	7	7.75	6	6	7	8	6	5.75	7	7	7	7	5	6	7	6	7	168.25		
																	RELIABLE CONTRIBUTION/$15.00 PER HOUR									$2,523.75	

TUESDAY MATH CLASSES ABLE TL ıNG RELIABLE POWER PRODUCTS

LEVEL 3	NUMBER OPERATIONS 40				PROBLEM SOLVING 40				PRETEST - TOTAL MATHEMATICS 80				POST TEST-TOTAL MATH	
	RAW SCORE	%-ile	STANINE	GE	RAW SCORE	%-ile	STANINE	GE	RAW SCORE	%-ile	STANINE	GE	GE	CHANGE
BERTOCCHINI, CARMELLA	15	29	4	7	10	21	3	7.8	25	20	3	7.4	8	.6+
BLANCO, ALBERTO	13	22	3	6.6	17	48	5	10.1	30	30	4	8	8.8	.8+
CARNEY, FLOYD	25	63	6	10	10	21	3	7.8	35	41	5	8.8	11	2.2+
DIAMOND, DOLORES	13	22	3	6.6	18	52	5	10.5	31	32	4	8.2	9.9	1.7+
KERR, DICIE	15	29	4	7	12	28	4	8.5	27	24	4	7.7	8	.3+
LEPEK, DEE	15	29	4	7	17	48	5	10.1	32	35	4	8.3	12.9	4.6+
MCDONALD, LATONYA	16	31	4	7.2	15	40	5	9.4	31	32	4	8.2	11	2.8+
PENTIMONE, CINDY	16	31	4	7.2	15	40	5	9.4	31	32	4	8.2	9.2	1.0+
SLASKI, JOSEPH	12	19	3	6.3	18	52	5	10.5	30	30	4	8	12.9	4.9+
VELEZ, JOHN	26	66	6	10.4	16	44	5	9.8	42	56	5	9.9	11.5	1.6+
WALLS, ETHEL	16	31	4	7.2	16	44	5	9.8	32	35	4	8.3	9.4	1.1+

LEVEL 2	NUMBER OPERATIONS 36				PROBLEM SOLVING 30				TOTAL MATHEMATICS 66					
	RAW SCORE	%-ile	STANINE	GE	RAW SCORE	%-ile	STANINE	GE	RAW SCORE	%-ile	STANINE	GE		
Broughton, Kenneth Jr.	15	24	4	5.4	19	68	6	8.9	34	43	5	6.6	9	2.4+
Green, Carrie	12	14	3	4.8	14	42	5	7	26	23	4	5.6	7.2	1.6+
Kolief, Ted	7	3	1	3.7	6	6	2	4.6	13	2	1	4	NT	
Marzilliano, Diane	19	39	4	6.2	19	68	6	8.9	38	53	5	7.2	11	3.8+
McGuire, Arthur	8	5	2	3.9	5	4	2	4.2	13	2	1	4	4.8	.8+
Mitchell, Vincent	17	31	4	5.8	20	73	6	9.4	37	51	5	7	NT	
Pierzchala, George	20	44	5	6.5	21	77	7	9.9	41	61	6	7.7	10	2.3+
Rodriguez, Jose	10	9	2	4.4	14	42	5	7	24	18	3	5.4	4.3	1.1 -
Stewert, Dorothy	17	31	4	5.8	22	82	7	10.4	39	56	5	7.4	11.7	4.3+
Turnipseed, Ronnie	9	7	2	4.1	12	31	4	6.4	21	13	3	5	5	0
Woodard, Willie	19	39	4	6.2	21	77	7	9.9	40	58	5	7.5	5.9	1.6 -

LEVEL 1	NUMBER OPERATIONS 20				PROBLEM SOLVING 20				TOTAL MATHEMATICS 40					
	RAW SCORE	%-ILE	STANINE	GE	RAW SCORE	%-ILE	STANINE	GE	RAW SCORE	%-ILE	STANINE	GE		
DeLeo, Tony	12	40	5	3.7	17	86	7	10	29	62	6	7.5	8.6	1.1+
Johnson, Floyd	7	12	3	4	13	57	5	6.9	20	28	4	5.4	6.7	1.3+

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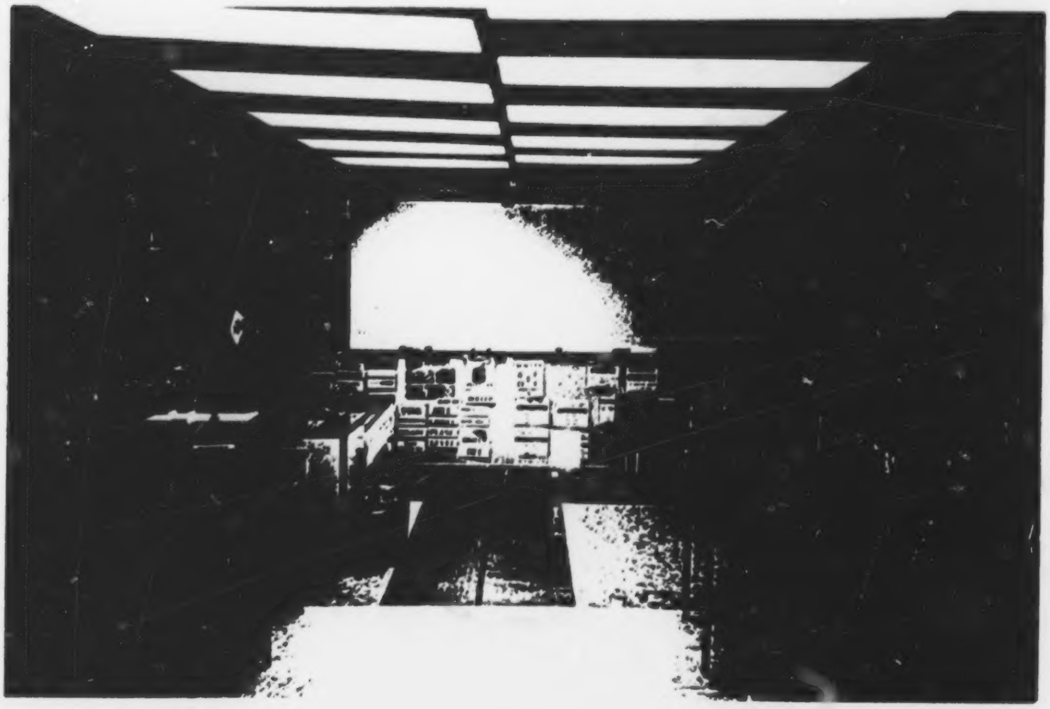
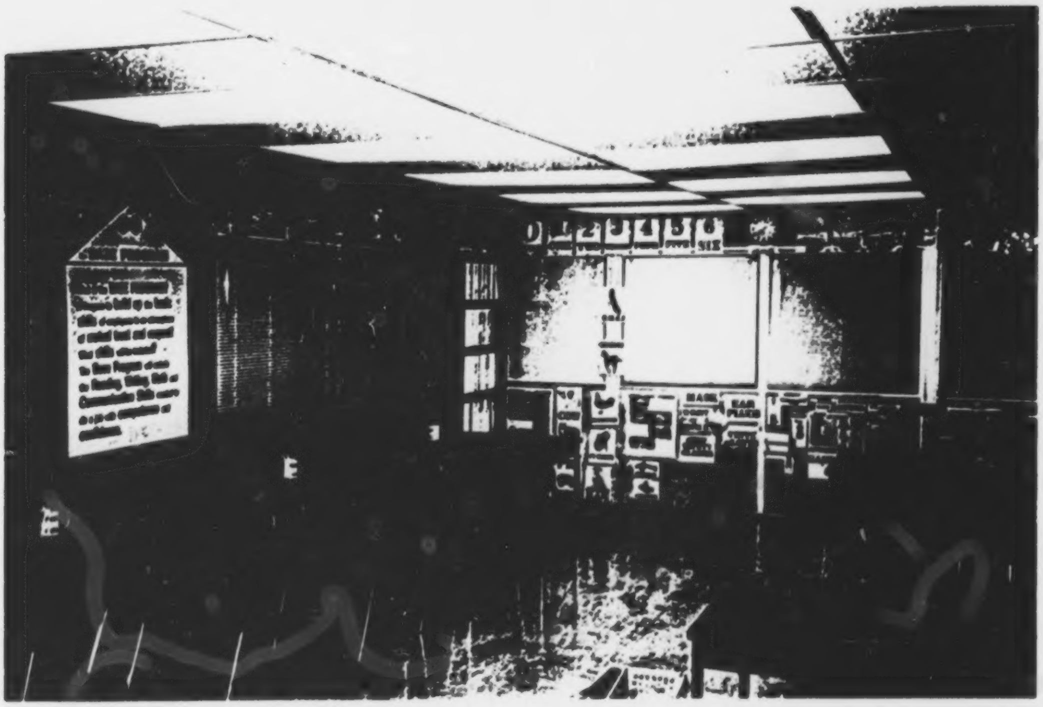
TUESDAY MATH CLASSES(32 HRS.) AB ESTING RELIABLE POWER PRODUCTS

	PRETEST NUM OP*-RS**	POST TEST NUM OP-RS	PRETEST PROB SOLV***-RS	POST TEST PROB SOLV-RS	PRETEST TOTAL-RS	POST TEST TOTAL-RS	PRETEST GE****	POST TEST GE	% GAIN/LOSS	GE GAIN/LOSS
EMPLOYEE										
LEVEL 3										
BERTOCCHINI, CARMELLA	15	11	10	19	25	31	7.4	8	**24%**	**.6+**
BLANCO, ALBERTO	13	19	17	16	30	35	8	8.8	**17%**	**.8+**
CARNEY, FLOYD	7	35	10	13	35	48	8.8	11	**37%**	**2.2+**
DIAMOND, DOLORES	13	25	18	15	31	40	8.2	9.9	**29%**	**1.7+**
KERR, DICIE	15	14	12	16	27	30	7.7	8	**11%**	**.3+**
LEPEK, DEE	15	32	17	29	32	61	8.3	13	**90%**	**4.6+**
MCDONALD, LATONYA	16	28	15	20	31	48	8.2	11	**55%**	**2.8+**
PENTIMONE, CINDY	16	26	15	12	31	38	8.2	9.2	**23%**	**1.0+**
SLASKI, JOSEPH	12	34	18	23	30	57	8	13	**90%**	**4.9+**
VELEZ, JOHN	26	36	16	14	42	50	9.9	11.5	**19%**	**1.6+**
WALLS, ETHEL	16	24	16	15	32	39	8.3	9.4	**22%**	**1.1+**
LEVEL 2										
Broughton, Kenneth Jr.	15	25	19	23	34	48	6.6	9	**41%**	**2.4+**
Green, Carrie	12	20	14	18	26	38	5.6	7.7	**46%**	**1.6+**
Kolief, Ted	7	23	6	18	13	41	4	7.7	**215%**	**3.7+**
Marziliano, Diane	19	25	19	23	38	48	7.2	11	**26%**	**3.8+**
McGuire, Arthur	8	13	5	6	13	19	4	4.8	**46%**	**.8+**
Mitchell, Vincent	17	26	20	20	37	46	7	8.6	**24%**	**1.6+**
Pierzchala, George	20	26	21	26	41	52	7.7	10	**27%**	**2.3+**
Rodriguez, Jose	10	10	14	5	24	15	5.4	4.3	**-38%**	**-1.1**
Stewert, Dorothy	17	30	22	26	39	56	7.4	11.7	**44%**	**4.3+**
Turnipseed, Ronnie	9	11	12	10	21	21	5	5	**0**	**0**
Woodard, Willie	19	22	21	6	40	28	7.5	5.9	**-30%**	**-1.6**
LEVEL 1										
DeLeo, Tony	12	16	17	16	29	32	7.5	8.6	**10%**	**1.1+**
Johnson, Floyd	7	11	13	15	20	26	5.4	6.7	**30%**	**1.3+**
***NUMBER OPERATIONS**							**AVERAGE GAIN/LOSS**		**34.08%**	**1.74+**
****RAW SCORE**										
*****PROBLEM SOLVING**										
******GRADE EQUIVALENT**										

RELIABLE LEARNING CENTER



VIEW TOWARD THE FRONT OF THE CLASSROOM



VIEW TOWARD THE BACK OF THE CLASSROOM

BEST COPY AVAILABLE

FEDERAL REPORT

PLAN FOR CONTINUED BASIC SKILLS PROGRAM

I. Program Summary for 1993-1994
(See attached)

II. Continuation Plan
- A. Workplace Classes
    1. Instructor led basic skills classes are planned as a regular part of the training programs at all the MacLean-Fogg divisions and/or plants that have the BASE Program currently in place. This includes the following: Fasteners Division, Reliable Power Division, MacLean Molded Division, Metform Division (2 plants), and Polymer Plant. The BASE Program will be introduced at two new divisions this year.
    2. Classes will be offered for all those employees whose skills were assessed to be below a ninth or tenth grade level for reading and/or math. All non-native speakers will be offered English as a Second Language training, as well as math and reading skills.
    3. A minimum of one hour per week of training will be offered and more when appropriate or possible.
    4. All basic skills Math, English, and English as a Second Language classes will focus on life skills and job specific skills.
    5. All programs are voluntary and will be offered on site. Depending upon the number of hours per week, the classes will be either 50% or 100% on company time.
- B. Tutoring
    1. Volunteer tutors from local community colleges or other community organizations will be used for English as a Second Language, Reading, and other special needs to supplement classes and self-directed training.
    2. The Continuing Education Coordinator will administer the tutoring program and be responsible for coordinating the activities at the various locations.
    3. The tutoring will take place both on site and at various off site locations, such as, local libraries and schools.
    4. Opportunities for tutoring will be posted on the employee bulletin boards. These could include a wide range of community sponsored activities in addition to ones relative to our basic skills program.
    5. Materials for employees use will be made available through the Learning

Resource Centers or through the Education Coordinator. These could include any of the basic skills (Math, English, or English as a Second Language) worksheets or books in our company resource center library. Employees will be allowed to borrow books and will be provided worksheets free of charge.

C. Learning Resource Center

1. Learning Resource Centers have been developed at two locations and are being planned for three more this year.
2. These centers will include:
   a. Tables and chairs
   b. Chalk boards and accessories
   c. Books, workbooks, take home worksheets, magazines, and other relevant materials for life and job skills
   d. Computers with basic skills and job skills programs
   e. Television, VCR with various training programs
   f. Tape recorder with various training tapes
3. The center will be open to all employees throughout their work days. Times must be scheduled and approved by their supervisors except for breaks, lunch and before and after work hours.
4. Certain training classes will be scheduled for specific times in the Center. These could be required job skills training or volunteer training.
5. A center coordinator or facilitator will be responsible for the day to day operations of the center. These responsibilities will include scheduling, monitoring, and planning of training.
6. The Corporate Educational Coordinator, Center Coordinator and division or plant personnel will work together to insure the continued development of the centers.
7. The individual center coordinators may be outside contractors or in-house personnel. Fasteners intends to hire a new person to coordinate the center. Reliable Power will use the services of their full time educator and MacLean Molded will use the plant supervisor/training director as the center facilitator.
8. Computer based training and video training will be the major training options offered at the Center. (See attached lists of programs now available.)

D. Computer Based Training

1. MacLean-Fogg has purchased some basic skills software programs during the past year and these are available at the Fasteners and MacLean Molded sites. They will soon be available at Reliable Power, Polymer, and Metform. (See list).

2. Authoring software has also been purchased that will allow us to develop our own job skills and basic skills training that is very specific to our type of manufacturing. Programs developed to date are:

   Molding Operator Training--3 modules
   Finishing Line Operator Training--2 modules

   These training programs have been developed for workers with low to intermediate skill levels in reading and math. These programs are being translated into Spanish for our non-native speakers.
3. Computer based training will take place in the Resource center at most locations and at employee work stations or other locations on the production floor at the MacLean Molded facility which has a network system in place. The Fasteners Divisions is currently researching the possibility for a local area network to expand the delivery of training.
4. Our large Hispanic population will require the addition software specifically for English as a Second Language Training.
5. Spanish language training for English speaking supervisors is being planned for the coming year at certain locations

E. Computer Software Needs

1. Demographics

Division/Plant	# Production Workers	% non-native speakers
MMP	30	85%
RPP	170	52%
Fasteners	160	10%

- There are approximately 125 production employees at the three divisions, that are part of the Federal Grant, that would benefit from computer based English as a Second Language Training.
- Of these non-native speakers, many are also in need of basic skills training in reading and math which we try to combine with English as a Second Language. It will be necessary to continue to provide additional basic skills math and language arts training to these employees as they gain some proficiency in English.
- Some of the self-directed computer based English as a Second Language software and other aids that we feel will support and enhance instructor led training and tutoring are as follows:

2. To upgrade our current learning center and to provide for new learning centers the following software programs are suggested:
   a English as a Second Language
      1. Speak Easy Conversations (lower levels of ESL)

$195 DK-20139

2. Computer Education Resources, Inc.
   Ellis Middle Mastery 1.0 Windows (intermediate to high levels)
   $795
   Ellis Master Pronunciation 1.0 Windows
   $595

b. Oral and Written Communication (Reading & Writing)
   1. Research Design Associates
      John Higgins
      1-800-654-8715
      1-516-499-0053
      a. Rhubbard (multi-level ability to create/design own text)
         $69.95
   2. Prentice Hall
      1-800-375-2375
      a. Blue Pencil (also ESL)
      ? $69.95
   3. Dyned/Media A Plus
      1-206-746-0236
      a. Interactive Business English
         $
   4. IBM
      a. Writing Made Easy
         $26.95
   - Working in teams, cross functional training new equipment, computer based quality control systems, customer demands and audits require a continued effort on our part to upgrade our employees' skills in both oral and written communication.

c. Math
   1. ICONIX
      Math Trek (8 modules)
      1-613-726-8895
      $180/unit
   - More and higher levels of math are being required by the newly installed Q.C. and Management Systems at all our locations. Basic math skills are constantly in demand in all areas of productions. Many of our non-native speakers have had very little formal education averaging between four and six years.

d. Other materials and aids: (3 locations)
   1. Speaking Language Masters $119.00 x 3

One of our English as a Second Language students (Polish) made good use of this product. He said that it was a big help for him and his supervisors.

2. Self Instructional Language Courses
   #5101 Spanish
   12 cassettes, text $175 x 2

- We are planning on some Spanish language training for supervisors and other English only speakers so as to encourage better communication and understanding at the locations where there are many non-native speakers.

Program Descriptions

Math Skills:

Math Blaster:

Rocket Launcher is a program that offers beginning level math problems focusing on addition. It is simply fill in the answer questions, such as 3 + 2 = __.

Number Recycler is a program that focuses on all levels and operations of math. It is up to the user to decide on their beginning level and the types of problems they will be solving.

Einstein Jr.'s Classroom:

The math section allow for the user to choose between multiplication, division and fractions. These problems are fairly advanced and if attempted, the user should look at several demonstration problems first.

General Knowledge Builder:

The math section of this program is fairly difficult. It asks a variety of questions under the elementary section that are at an intermediate level focusing on definitions and the basic operations.. The High School and College questions focus more on algebra, geometry, and calculus.

Math Word Problems:

This program contains four sections of advanced word problems dealing with fractions, decimals, algebra, geometry, etc.

Phonics:

Phonics:

The program teaches the user how to spell and the sounds of the letters in different words by filling in the missing letters, completing a crossword puzzle, or solving a word search.. This is beginning level and consists mostly of picture recognition.

PC Skills:

How to Use Your PC:

This program gives you an in depth description about how to run your personal computer. It is written at a beginning level and is fairly simple to understand.

DOS Skills:

Teach Yourself DOS:

This program is fairly simple. It explains at a beginning level how to operate in DOS. This program gives clear explanations.

Language Skills:

Einstein Jr.'s Classroom:

The Subject-Verb section is a beginning level program that allows the user to practice identifying the subject and verb in a sentence. The user is given a sentence and asked to 1) identify the verb and 2) identify the subject.

The Modifiers section is an intermediate level program that allows the user to gain more knowledge regarding modifiers by classifying that as modifiers or not. This is fairly difficult and requires a general knowledge about the English language and sentence structure.

The Preposition section is beginning level, but it requires some basic knowledge of sentence structure in the English language. In this, the user is asked to look at a phrase and type in the blank the preposition found in the sentence.

General Knowledge Builder:

The language section of this program is fairly difficult. The user is given random types of questions to answer about literature, definitions, word association, etc. The high school and college sections focus on similar topics, but at a more advanced level

Verbs:

Action Verbs gives the user a sentence and they must type in the verb from the sentence at a beginning level.

Linking Verbs allows the user to identify the verb and the subject of the sentence. This is a beginning level program.

Tense of Verbs allows the user to tell what the verb is and identify the tense of the verb in a sentence. This is a fairly simple program.

Thinking Skills:

Logical Statements gives the user two sentences and they need to draw a conclusion based on these sentences. This requires some thought, but it is at a beginning level.

Word Relationships shows the user two words that are compared in some fashion. Another word is given for the user to compare with the words in the list in the same fashion.

Word Magic gives the user a sentence with a highlighted phrase. The user must tell whether the phrase is a simile, a metaphor, a personification, or an idiom. This section is more advanced.

Cause and Effect shows the reader a sentence explaining an action and the user needs to select the cause of the action. It is at a beginning level.

ABBOTT

Abbott Laboratories
One Abbott Park Road
Abbott Park, Illinois 60064-3500

July 1, 1994

Mary Kay Gee
Director National Workplace Literacy Project
College of Lake County
19351 West Washington Street
Grayslake, IL 60030-1198

Dear Mary Kay:

The following is Abbott's proposed plan for continuing the Workplace Program after the National Grant fund expires in September, 1994. The three options include:

- To continue to offer workplace classes
- Set up a volunteer tutor program
- Set up a learning resource center

WORKPLACE CLASSES

- Abbott plans 48 hours of contact training per session, to be offered 4 times a year.
- Classes will be offered to all Abbott Lake County hourly and non-exempt employees.
- Classes will be focused on basic skills such as reading, math, language, ESL and GED.
- Incentives will include:
  - Release time from work for specific grade levels
  - Certificate of completion for every 48 hours completed
  - Special recognition events such as a picnic, year end awards and recognition dinner
  - Recognized in the company newsletter
- Supplemental activities or services that will supplement the classes include:
  - Tutor support
  - Individualize counseling
  - Assessments
  - Computer aided instruction
  - Interactive video instruction
  - Audio cassette
  - Workbooks
  - Resource Center

The staff of the Abbott Lake County Skills Development Program will be coordinating these activities.

VOLUNTEER TUTOR PROGRAM

* Abbott volunteers and members of the Lake County Literacy members will do the tutoring.
* Recruitment will be handled through the use of the Abbott Lake County newsletter, *NEWS UPDATE*, with a distribution to approximately 13,000 employees.
* All Abbott employees are eligible to serve as a volunteer tutor.
* The tutors will be coordinated by the staff of the Lake County Skills Development Program.
* All tutor activities and training, unless specified, are on Abbott premises.
* Each tutor will be instructed in the use of the PACE material. Any other material must be approved by the Program Manager before use.

LEARNING RESOURCE CENTER

* Approximately 480 sq. ft. has been provided for a Resource Center.
* The Resource Center will be equipped with:
- Lateral file cabinet
- Storage cabinet
- Bookshelves
- 8 Carrels
- 2 Tables
- 11 Chairs (Ergonomic designed)
- 2 Video (VCR) presentation units
- 9 Computers with capabilities such as :
    - CD-ROM
    - Full Motion Video
    - Interactive Video Instruction (IVI)
    - Voice Response
    - Printing
- Tape Recorders
- Books
- White Board
- Phone

* The Resource Center serves all Abbott Lake County employees
* Incentives for us of the Center include:
- Free counseling
- Learning style evaluation
- State of the art equipment
- Prescribed course of study
- Certificate of completion
- Hours that the center is open

* Presently the hours of operation are from 6:00 a.m.- 6:00 p.m. with plans to increase hours of availability.
* Staffing of the center will be members of the Lake County Skills Development Program and Abbott volunteers.

Please feel free to call should you have any questions regarding the options described in this letter. My phone number is 708-937-4227.

Sincerely,

Bill

Bill Pepito
Manager, Lake County Skills Development Program

I - TESTING -

There will be testing one time per month for the standardized TABE Survey test. This updated version will measure reading, mathematics, and language basic skills and concepts that adults need to live and work. The test administration will be provided by College of Lake County. In addition, once a month either an English as a Second Language, Problem solving, or Work-Related Foundation Skills standardized test will be given. Which particular test is to be administered will be based on company and employee needs.

The English as a Second Language test will consist of oral interviews as well as reading, math, and writing components. The Work-Related Foundation Skills test measures the basic reading, math, and language skills within the context of the trade/technical category of a workplace environment. The Problem Solving standardized test assesses adult problem solving and higher order thinking skills within a general work-related environment.

The administration for all these tests will be provided by the College of Lake County. The schedule for this testing will be created and coordinated by the Abbott Lake County Skills Program and the Center for Economic Development of the College of Lake County. Both divisions of Abbott and CLC will work together in presenting pertinent basic skills information to Abbott divisions, department and managerial meetings, and employee informational sessions. Surveys and questionnaires about needs and program desires will be created and distributed.

II - SOFTWARE -

Abbott would like to purchase software that would allow the ESL employee to self-pace him/herself and would allow for access in the already established computer center at the convenience of the employee's schedule. The software that best addresses this need is:

1.	Vocabulary Mastery II No. 24-7070-00000 Series A (IBM)	$199.95

2.	Parts of Speech DK-Eng #1 (IBM)(MS-DOS)	199.00
3.	Speaking Language Master	119.00
4.	Community Exploration	79.00
5.	Communication Skills 1 Unit ISBN 5887-3	69.95
6.	Speak Easy Conversations DK-20139	$195.00

PLANABBT

METALEX

Plan For:

Continuation of Workplace Education

General Goal:

Metalex is committed to continuing the education of our workforce in order to upgrade basic skills resulting in increased productivity, reduced employee turnover, and improved long-term promotional potential of our employees. The educational efforts made thus far have helped in these areas, but improvement still needs to be made through the continuation of basic skills education.

Continuation Plans:

- Metalex, with the assistance of the College of Lake County, will continue their Learning Resource Center whose primary objective is to provide employees with appropriate educational referrals. The Human Resource Manager will serve as the contact person for Metalex employees who wish to pursue their basic skills education but need assistance with determining an appropriate educational provider or other type of assistance. Additionally, employees needing individual tutors will be matched with tutors with the assistance of the College of Lake County.
- Metalex will provide 100% tuition reimbursement to full-time employees who have passed their probationary period and wish to improve basic skills through classes such as math, English, etc. These classes must be taken at an appropriate learning institution; such as a university, Vocational Technical school, etc. Additionally, job related courses such as machine shop, metallurgy classes, etc. will be reimbursed, as well as GED exam fees.

- An ongoing concern of Metalex's management, is a continuing need to upgrade math skills required by an increasing use of statistical process control The basic math skills needed include measurement, fractions, decimals, calculating upper and lower control limits, etc. While the math classes provided through the grant have helped, we will continue to evaluate needs on an ongoing basis and provide classes on an as-needed basis. Additional classes will be provided on a contractual basis by the College of Lake County. Half release time will be provided to those attending.

Evaluation Report:

National Workplace Literacy Program

College of Lake County (Awardee)

December 1994

Eunice N. Askov
Professor of Education
Director, Institute for the Study of Adult Literacy
The Pennsylvania State University
204 Calder Way, Suite 209
University Park, PA 16801-4756

Background Information

The College of Lake County (CLC) is located in a rapidly expanding area north of Chicago. Grayslake which used to be a quiet resort area has become industrialized and populated as Chicago's suburbs have pushed north. The college has also grown rapidly in meeting the needs of its diverse citizens who constitute both traditional community college students and non-traditional students who are adult learners participating in classes in the workplace.

Project Description

The project proposal listed the following objectives for the 18-month period:

1. To develop a model of cooperation between a community college and the business community in meeting the needs of adult learners in the community.

2. To assess the needs of the employees and the companies so that appropriate curricula and instructional strategies can be developed and shared, where possible, across work sites.

3. To develop a model workplace program consisting of assessment techniques, instructional methods and materials, evaluation measures, and support services that can be applied across industries and yet can be adapted to meet the needs of specific companies.

4. To provide workplace skills training and support services to a significant number of eligible employees by the end of the 18-month period, and to develop a plan to provide for ongoing training in the future.

The project accomplished these goals. The project had proposed to serve 1400 employees in six workplace sites using the functional context approach to instruction; this objective could not be met when one partner withdrew and began its own training program. The project did serve 750 students in 34 classes which is highly commendable. (A description of the project partners is included in the final report.) In most of the sites employees attended class during work time; support services were not needed in terms of child care or transportation. Counseling services were provided by a full-time counselor hired for the NWLP grant.

Evaluation Plan

The letter dated April 12, 1994, summarizing the initial evaluation visit, is attached in Appendix A. Some discrepancies had occurred between what was proposed and the activities being undertaken, some of which were due to the very slow start-up of the project. Even after the project director was hired, it seemed to take the college a long time to hire the rest of the staff. Curriculum development was also slow to get underway; contracting with an outside agency to act as trainers in curriculum development moved the process ahead. However, rapid progress was underway even before the first evaluation visit; corrective actions resulted from that evaluation letter to remedy what had been discrepancies. The evaluator received a summary of those actions in the June 28 letter from the project director (also shown in Appendix A) before he resigned to take another position.

The project staff undertook considerable efforts to do their own formative evaluation by surveying students about the long-term impact of the program on their attitudes toward the workplace literacy classes and toward lifelong learning. These data are summarized in the final report from the project.

During the final site visit in August, the evaluator interviewed the acting project director, instructors, students, industry trainers, and plant/division managers in most of the sites. The surveys in Appendix B provided the basis for interviews with program stakeholders. The acting project director was asked to review the questions in advance and modify them. She distributed them prior to the visits to give stakeholders opportunity to think about their responses. The interview responses were well thought out; some personnel had even made notes of points to be covered.

One company was added near the end of the grant period in response to an invitation to attend an informational session about the NWLP project; that company will continue to be served under the new grant. Most of the other industries had previous connections to the college through state grants and contract services.

Responses of Stakeholders

Stakeholders were unanimous in their support of the program. In fact, in every site the management and students expressed a desire to continue their workplace literacy programs. The business partners had been asked to write up their plans for institutionalization of the program; these are included in the final report.

Students

Regardless of job classification, seniority, age, race, or gender, students were overwhelmingly positive about the program. Some saw it as a help to advancement in the company, but most were motivated by the desire for self-improvement. The non-native speakers of English felt more comfortable in talking to their supervisors. All students consistently mentioned the importance of their teacher, the individualized instruction and assistance, and the opportunity to use a computer in learning (when available). Most reported that they were able to use what they learned in class on the job and at home, and that they brought literacy-related problems from the job and home to class for instructional help.

One of the benefits to the program often cited was learning more about the company. They now understood the "big picture" and saw their role in a better perspective. They reported being able to use materials related to their jobs that previously they could not understand. They expressed gratitude to the company for being able to attend "school" during work time. They reported that their supervisors and coworkers were supportive. While no one used the word *empowerment*, that seems to describe the feeling of the students interviewed.

Industry CEOs, Trainers, and Supervisors

All were unanimously positive about the program. Although some initial difficulties had been encountered in arranging work coverage for students and adjusting to the college "culture," they saw the benefits to the students. They felt that the grant period was too short to be able to quantify the results, but they saw evidence of enhanced morale and communication skills. However, one company which had institutionalized the workplace literacy program based on earlier efforts had collected impact data showing effects on productivity, quality, and so forth (as displayed in the final report). Another company reported that the absentee rate is "dramatically better than the general population," that salary increases of participants were higher, and that one of the 18 students had been promoted.

In the plants which are organized into teams, management noted that students were able to participate in ways that they could not prior to classes. One supervisor reported that the program had actually saved him time because now he does not have to review the work orders with his employees — that they are now able to function independently using the written forms.

College Project Director and Instructors

The NWLP project has opened up new opportunities for collaboration between the college and local industries. The college has offered other classes onsite as well as on campus as a result of this relationship. All expressed that the strong industry support had been an essential part of the success of the program. Working with the students and watching their progress were mentioned most often as the highlight of the program as well as the strong partnerships with the industries.

They saw this program as the opportunity for capacity building through training the CLC staff to work in local industries using the functional context approach to curriculum development and instruction. College staff have also developed job-specific curricula and classes for other industries following the NWLP model.

CLC staff perceived that the industries have benefited from the workplace literacy instruction which has led to a more trainable workforce—one that can also show initiative and work together in teamwork. Workers seem more confident and able to take responsibility. The workers seem "turned on" to learning; the more classes they take, the more they want.

Frustrations included some confusion in roles resulting from the relationship with the outside agency hired to train the curriculum developers. In time, however, these confusions were cleared up, and stronger products were felt to have resulted from the input of the external consultants.

The evaluator was told by one staff member that the college may have initially lacked commitment to and understanding of the NWLP project — that it was treated as just another college program rather than a national demonstration program. (However, college administrators said that CLC policies did not allow the college to be as responsive as it should be to externally funded projects; they see this as a need for change within the college structure.) The curriculum developers also expressed pleasure at being located within an industry for their work, but some frustration was expressed that the college support services were not located near to where they did their work, making it difficult for them to obtain necessary services.

The staff also felt that the division between education and training is artificial when the functional context approach to instruction is used. The best training program would be one in which customized basic skills instruction is integrated with technical training to ensure relevance of instruction and application back to the job.

The staff felt that they had a good team with solid leadership. Working together was considered to be strong point They felt that the NWLP project was a real learning experience for them. Having no predetermined curriculum but responding to companies' and workers' needs in designing instruction has been an opportunity for professional growth.

Impact Data

The final report describes the results of the college's surveys of the self-perceived impact of the program. These appear to be positive.

Job-Specific Test Results

The curriculum was set up around competencies which the students were to master in the context of their job-related materials. The instructors developed job-specific criterion-referenced tests to assess learning. No statistical tests could be performed on these results, given that different tests were used in different workplaces depending on the company's needs. (These are reported in CLC's final report.) However, by reporting the data in terms of the percent of competencies mastered, one can see the impact of the classes on basic skills acquisition. Clearly, many of the students showed gains in the basic skills assessed within the context of specific jobs.

Conclusions and Discussion

All the classes seemed to be open to students' needs and goals as well as meeting those of the industries. The instructors were highly regarded in all sites for their abilities to meet the students' needs, individualize the curriculum, and relate to industry personnel, policies, schedules, and so forth.

While most of the industries were unable to quantify the impact of the program in terms of productivity, quality, absenteeism and so forth, they are committed to its continuation within each industry site as indicated in their written plans shown in the final report. One industry, however, was able to track the impact of the program on its business output; the very impressive data are reported in CLC's final report.

Some issues emerged from the interviews with the various stakeholders in the program.

Curriculum development. Involvement of an external agency for staff training in the curriculum development process led to the development of high quality products. However, some confusion occurred over the roles of the consultants and the curriculum developers/instructors, especially about the statement of competencies for the program. The curriculum developers, who also taught their curricula as instructors, assumed a new role which was a growth experience for them.

The model of the curriculum developer/instructor was innovative and led to outstanding products which were field tested in the program. The evaluator commented (after her initial visit) on the problem of the instructors who were not involved in curriculum development; they seemed to be given little support for their efforts in curriculum development and instruction. This situation was corrected by pairing the curriculum developers/instructors with the other instructors (who were not part of the curriculum development project) for technical assistance. Again, this was a new role for the curriculum developers/instructors which represented a growth experience for them. Some of them in the final visit reported that they would never teach the way they had in the past as a result of this training and experience.

Institutionalization. It is usually difficult to institutionalize externally funded programs, especially customized curriculum development; however, the CLC has been delivering workplace literacy services as contract services. The written plans for institutionalization, created by the industrial partners and included in the final report, were intended to encourage them to plan for program maintenance.

Grant money also leads to insecurity about jobs among project staff. The project did experience some staff turnover perhaps due to the uncertain nature of continuation.

Technology. Although it had been proposed that computers would be used in the NWLP classes, the evaluator saw only limited use of them in instruction. She also did not see the use of customized software to meet the learning needs of the specific workplace and workers. One of the problems reported with the curriculum development effort was the old college computers which were not compatible with desktop publishing capabilities. (Apparently, the curriculum development agreement did not include arrangements for appropriate technology so the college provided what was available.)

Customization. Training objectives were tied to company business objectives, and reflect company and employee needs. Workers and management were asked about their goals and needs for the workplace literacy program as part of the needs assessment process. While formal literacy task analyses appear to have been performed, the mutual needs were also being met through a participatory approach with learners. Instruction was being customized to the workplace, making it highly effective.

Formative evaluation. The project staff should be commended for their considerable efforts to do their own formative evaluation by surveying students about the long-term impact of the program on their attitudes toward their jobs and lifelong learning. These data were used to inform and modify the program. They are reported in CLC's final report.

Counseling component. The full-time counselor met with students individually and drew up individual learning plans. These plans helped workers think of themselves as lifelong learners. While they were guided to other classes at the college, they were also put in touch with community resources. The counselor also established the database for record keeping of student demographic data for reporting purposes.

Skilled staff. The staff demonstrated an understanding of adult learning, adult education principles, and workplace literacy instruction. Not only are they highly educated in their disciplines, but also they have internalized the goals of the program. The expertise of each staff person complemented that of the others. The project director seemed particularly talented in working with the staff and industries; the acting project director, who had been the CLC Workplace Literacy Coordinator, likewise seems to be efficient and effective in her leadership.

A Final Note

The strengths of this NWLP project are its effective partnerships, delivery of customized instruction, curriculum developer/instructor approach to curriculum development, and strong staff. Its curriculum products are a model to other projects. The use of the curriculum developers/instructors as mentors to other instructors is also innovative. The self-analysis that occurred throughout the project, some of which in consultation with the external evaluator, was also evident in the final report. This evaluation report has attempted to highlight the strengths that were clearly evident during the second site visit.

APPENDIX A

INSTITUTE
FOR THE STUDY
OF ADULT
LITERACY

April 12, 1994

Douglas Petcher
Center for Economic Development
College of Lake County
Grayslake, IL 60030-1198

Dear Doug:

Thank you for taking time out to show me around the sites and to meet the project personnel. By this letter I am conveying formative evaluation comments which will help you prepare for my return summative evaluation visit in early September.

The curriculum development effort appears to be very strong. The training and technical assistance of the Adult Learning Resource Center seem to be excellent. I saw competencies identified for each class and each company that appeared to be appropriate. Basic skills were related to the competencies. Customized job-specific and job-related materials, including customized criterion-referenced assessments, were developed for the skills and competencies. The team approach to curriculum development seemed to be working very well. Having the curriculum developers also teach classes is a very good idea as a pilot test of the curriculum being developed.

Now that the project is fully staffed, the members appear to be working well together. Your staff appears to be of high caliber and dedicated. The roles of project director and coordinator seem to be well defined as is the career development specialist who also manages the data collection.

I did not find evidence that individualized instruction based on pretests was being delivered except in one site. I saw mostly whole class instruction (which is fine if the class members all need the instruction). It may be that I just didn't see individualized instructional plans. Perhaps use of portfolio assessment would help ensure that individual as well as group needs are being met.

It would be good to add the customized criterion-referenced assessments to the individual educational plan database being kept by the career development specialist. Although these assessments may lack formal reliability, they should be valid since they are closely related to the curriculum and should be indicative of the gains made around the competencies and skills.

As you know, I am concerned about the instructors who are not involved in the curriculum development process. While they appear to follow some of the literacy task analysis procedures in developing lesson plans, they do not appear to have the same level of support as the curriculum developer/instructors. I suggest that these instructors use some of the modules being developed so that all students can benefit from the curriculum development efforts. These instructors will also give the materials a more rigorous field test since they have not been involved in the development.

Forming advisory councils in each company might help with recruitment and institutionalization of the program. The fact that most of your classes are small and that most companies do not have waiting lists indicates that recruitment is a problem area. The companies

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have to take responsibility for this with your help. My sense is that most have not really "bought into" the concept—they see the program as your program rather than as their program. An advisory council at each site can help spread understanding of the program and foster greater ownership and support.

We discussed the possibilities of creating dedicated learning centers, especially with computers, which would greatly improve the chances of institutionalization. Please let me know if we can be of assistance in that effort.

My hope is that some of the industries will institutionalize the program. I suggest that you pursue ways that it can be institutionalized at the college. (I understand that this problem may be out of your control.)

Thank you for documenting the progress in the timeline of the proposal. It was a good formative evaluation effort that I trust you will repeat before my next visit. Please also review the interview protocols that I gave you; your suggestions are welcome. I will analyze the interview data.

Other formative evaluation efforts are commendable, such as student and supervisor surveys, interest surveys, teacher observations, and the corrective feedback built into the curriculum development process. In the summative evaluation you will be collecting and analyzing for gains the following:

Mastery of competencies
Pre- and posttests of standardized tests where administered
Student surveys
Supervisor surveys
Other learning opportunities within the company, community, or college

You will ask the industries to track as best they can impact data on students:

Absenteeism
Retention
Promotions
Bidding on higher level jobs
Production
Quality
Safety

I must comment on the slow start-up of the project and the delay in the curriculum development effort. I understand that new projects require some time, especially with new personnel who have to learn the college system in addition to the industries. I hope that you can now fill the classes and even have waiting lists!

Again, thanks for your hospitality Please feel free to give a call if you need to discuss any of these or other issues.

Sincerely,

Nickie

Eunice N. Askov
Professor of Education
Director, Institute for the
Study of Adult Literacy

P.S. I saw Sarah Newcomb at a conference and had a chance to ask her about the GED. GED preparation is allowed if a GED is required for job retention or advancement.

COLLEGE OF LAKE COUNTY

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June 28, 1994

Dr. Eunice Askov
Institute for the Study of Adult Literacy
Penn State University
204 Calder Way, Suite 209
University Park, PA 16801

Dear Nickie:

Because I am leaving the Project Director position on June 30, I wanted to respond to your letter of April 12 to update you on the changes made so far in response to your recommendations.

First of all, the curriculum development effort, which you commended, will soon conclude. The curriculum developers are finishing their work this week, and a draft of the curriculum will soon go to the Adult Learning Resource Center for a final edit. I am enclosing the table of contents, which reflects the structure of the final product. The curriculum will be printed in August for distribution.

Your concern that the those instructors outside the curriculum development project were not receiving adequate support has been addressed by using the curriculum developers as mentors in several cases. Shortly after your visit, one of the ESL team members began working with the ESL instructor at MacLean Fogg. Another of the ESL team members has been working with the instructor for a course just started at Stone Container, the new site which I mentioned has been added to our project. When the math courses at Baxter resumed for the summer months, the math team conducted a needs assessment there along with the math instructor and worked with her to develop a set of competencies. All other summer classes are currently being taught by those involved with the curriculum project.

During the class startup period for summer, a number of efforts were made to recruit students in order to involve additional workers in the classes. The Project Coordinator and the Career Development Specialist conducted information sessions on the upcoming classes at both Baxter and Abbott. At MacLean Fogg and at Metalex, the math instructors, who had come to know the supervisors, conducted recruiting efforts there. We did not see significant jumps in enrollment because of these activities, however. The in-house coordinators tell us that because summer is a very active time for the workers, they are more hesitant to become involved in classes. Enrollment continues to be stronger at Reliable Power and at MacLean Molded, where there is more of a sense of the whole plant being involved in the program.

In order to increase the impact of our grant project on the Lake County area, we also recently added Stone Container, a producer of cardboard packaging. A skills assessment involving all of the production workers was conducted through the grant project in April using the TABE and the ESLOA. We currently have underway an ESL class of 15 workers who were selected on the basis of their test results. (All of the workers tested met with the Career Development Specialist to go over the results and to hear about the company's plans for workplace literacy classes and the incentives offered.) Attempts made to add two other companies to the project to bring the number served closer to the target of 1400 workers did not prove successful.

To increase company ownership of the project, we have begun a planning process that we hope will lead to the partners' institutionalization of their workplace literacy programs. On Friday, July 17, an advisory council meeting attended by all of the partners was held at which we suggested various options for continuing the on-site programs beyond the grant period. These options include establishing a volunteer tutoring program, with help in tutor training from the Literacy Program Coordinator, as planned in the grant proposal.

Another recommendation, which Abbott and the MacLean Fogg group are already in the process of implementing, is to establish on-site learning resource centers. To that end, the grant staff and others involved with the grant such as the Director of Adult Education and the Associate Dean of Adult and Continuing Education, will be offering assistance to the companies on setting up and staffing such centers. Some of the surplus funds we currently have on hand will be used to purchase software for those companies who purchase computers and develop a coherent plan for their use. As these plans develop, we will also recommend that the companies establish formal internal committees to oversee their programs.

A third option, which is likely to be pursued at Baxter and Reliable Power, is to purchase a limited number of computers which can be used in conjunction with on-site classes to provide a more individualized approach to instruction. Because our competency-based approach involves tracking individual student progress and adjusting instruction to student needs, the classes you observed actually place more emphasis on the individual student than was readily apparent. However, we could certainly do more to individualize our instruction, and we hope that the availability of computers will help us to accomplish that.

We are continuing to collect the evaluative data agreed upon. As you recommended, we have begun to track mastery of competencies in the project classes, and I am including that information in the enclosed material. We have had difficulty, though, in modifying our data base at this point to add the information there. We are also continuing to collect student surveys and supervisor surveys. We have also asked the industrial partners to be ready to provide you with indicators of the impact of the program at their industries and have given them examples of such indicators.

After June 30, Mary Kay Gee, the Workplace Literacy Training Coordinator, will serve as Acting Project Director until the end of funding on September 30. Other than that change, the full-time grant staff continues to be the same as it was on your first visit.

I enjoyed meeting you and very much hope that our three-year proposal is funded so that your association with CLC can continue.

Sincerely,

Doug

Douglas Petcher, Project Director
National Workplace Literacy Grant

APPENDIX B

LAKE COUNTY COLLEGE PROJECT
Workplace Literacy Project
Learner Group Interview Guide
August 30-September 1, 1994

1. Place of Employment:
2. Name of Class:
3. How satisfied were you with the class? Why?
4. What was the most important part? Least important?
5. What did you gain from the class?
6. How did the class help you with your job?
7. How did the class help you outside the job?
8. What was most difficult for you with the class? Easiest?
9. What did you like best about the class? Least?
10. Did the class help you with getting an advancement or a better job?

11. How did your fellow workers feel about you taking the class?

12. Would you recommend others to take the class?

13. Did you get support from your supervisor to attend the class?

14. Do you look forward to any more classes?

15. Do you do any more reading (math or writing) at work than you did before the class? Any more at home? If yes, explain.

16. Other comments.

LAKE COUNTY COLLEGE PROJECT
Workplace Literacy Project
Supervisor/Training Director Interview Guide
August 30-September 1, 1994

1. Name of Company:
2. Name of Class:
3. Number of workers who participated ________________.
4. How satisfied were you with the class(es)? Why?
5. How did the workers benefit?
6. How did the company benefit?
7. What were the shortcomings of the class(es)?
8. What changes have you noticed in the workers who participated? (productivity, quality, safety, absenteeism, retention)
9. Has participation in the class(es) affected their chances for advancement?
10. How much did the workers talk to you about the class(es)?

11. How did the workers who participated feel about the class(es)?

12. How did the other workers feel about the class(es)?

13. How does this training compare with training the company has done or could do itself?

14. Would you recommend the company continue this kind of training?

15. What are the advantages and disadvantages of working with the College in offering the class(es)?

16. Other comments:

LAKE COUNTY COLLEGE PROJECT
Workplace Literacy Project
Staff Interview Guide
August 30-September 1, 1994

1. How satisfied are you with the project?

2. What were the greatest satisfactions? Least?

3. What factors helped with the success of the project?

4. What factors acted as deterrents to the project?

5. To what extent were there agreements on the goals among all stakeholders?

6. What do you see as the major outcomes? Major disappointments?

7. What factors helped with development of the program? What was a waste of time?

8. How do you feel about your linkage with industry? Will it continue?

9. What was the most difficult part of the project?

10. What would you change?

11. How cost-effective was it?

12. What are your plans for the future regarding this program?

LAKE COUNTY COLLEGE PROJECT
Workplace Literacy Project
Interview Guide For Partners (Training Director)
August 30-September 1, 1994

1. How satisfied are you with the project? Why?

2. What benefits have you obtained? How did the workers benefit? (productivity, quality, safety, absenteeism, retention)

3. Did your expectations change during the course of the project? How?

4. What were your major disappointments?

5. How effective was the partnership between industry and the College?

6. How cost-effective was the project?

7. How do you feel about continuing the project?

8. What changes do you see in the near future that would change the needs of your workers for training?

9. Would you recommend this training program to your colleagues in other companies?